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Getting started with ArcUSA

Welcome

The ArcUSA database contains the data needed to generate thematic maps of the coterminous United States at the state and county levels. It contains cartographic, tabular, and index information and is designed for a wide range of business, educational, and scientific GIS applications. The ArcUSA database is formatted for UNIX and MS-DOS systems.

Use ArcUSA data to. . .

- Create county- and state-level thematic maps
- Generate simple outline maps for use as insets or locators
- Identify demographic and socioeconomic patterns by county and state
- Display a road map of your state
- Create basemaps for use with raster data
- Serve as a cartographic base for your own tabular data
- Find out which USGS topographic maps cover your study area
- Observe how selected geographic features and patterns are related
- Experiment with a variety of mapping techniques

What is in your ArcUSA package

- CD-ROM or other distribution medium that contains the ArcUSA database and some preconstructed ArcView™ views
- *ArcUSA 1:2M User's Guide and Data Reference*
- *ArcUSA 1:2M Installation Instructions*
- ArcUSA license agreement

To get started, you'll need . . .

For UNIX systems:

- ArcView or ARC/INFO 6.0 or higher
- CD player (for CD-ROM) or drive appropriate for the distribution media you received
- Disk space appropriate to your version of ArcUSA (see table below), if you wish to copy the entire database onto your hard drive

For MS-DOS systems:

- ArcView for Windows, or PC ARC/INFO 3.4D or higher, or ArcCAD version 11 or higher
- CD-player (for CD-ROM) or drive appropriate for the distribution media you received
- Disk space appropriate to your version of ArcUSA (see table below), if you wish to copy the entire database onto your hard drive

Table 1: Disk space requirements for the ArcUSA database

Database	Size (MB)	
	dBASE	UNIX
ArcUSA 1:2M, Full Extent	215	270
ArcUSA 1:25M	13	14
Sample data (views)	3	2

The database sizes shown in Table 1 apply to only one projection or coordinate system; the second set of data for ArcUSA 1:2M requires approximately the same amount of disk space. The *ArcUSA 1:2M Installation Instructions* give instructions about copying individual coverages to another storage space.

How to access the database

Depending upon the amount of disk space you have available and the applications you plan for your ArcUSA data, you may read data directly from the CD-ROM or decide to copy all or some of the data to your hard drive. Copying the data onto your hard drive will significantly improve performance, but requires extra storage space. Data copying and storage options for your particular hardware platforms are discussed in the *ArcUSA 1:2M Installation Instructions*.

How to use this guide

If you're new to geographic information systems

If you've never worked with a geographic information system, you may want to get an introduction to basic GIS concepts before you read this guide in detail. You should also be familiar with the basic tools of the software you'll be using (ArcView, ARC/INFO, or ArcCAD).

- To understand some basic concepts of GIS, see "What's GIS?" (Chapter 5 of the *ArcView User's Guide*).

- The book *Understanding GIS: The ARC/INFO Method* is an excellent, more extensive resource for novice ARC/INFO users.

- The ARC/INFO 6.0 handbook, *ARC/INFO Data Model, Concepts, & Key Terms* will also be helpful.

- You can get excellent, detailed information from the numerous published materials on geographic information systems. See the bibliography for references to other materials that might prove useful.

Using ArcUSA data with ArcView

This user's guide assumes that you are familiar with the basic tools and functionality of your ArcView software. Although this manual concentrates on using the database with ArcView, all of the applications discussed, and more, are possible using ARC/INFO.

- If you're new to ArcView and the ArcUSA database is the first database you'll be exploring, begin by taking the ArcView guided tour (see Chapter 2 of the *ArcView User's Guide*).

- Once you've become familiar with ArcView, explore the ArcUSA database by following the guided tour in Chapter 2. This hands-on tutorial will help you learn the basic techniques for creating displays and querying the data.

- We have included several precomposed ArcUSA views. ArcView users can immediately call these up to display and begin working with the data. These displays are not accessible through ARC/INFO or ArcCAD™ software, however.

What is in this manual

Each chapter in this manual addresses a particular aspect of the database or its use. The order in which you read the chapters is up to you, and you may wish to defer reading a chapter until the information it contains is relevant to what you are doing. The chapters are as follows:

Chapter 1 ***What is ArcUSA?***
Presents the geographic extent of the database and an overview of its contents.

Chapter 2 ***Exploring the ArcUSA database***
Provides an ArcView tutorial that introduces you to the basic database organization and illustrates fundamental techniques for selecting, displaying, querying, and analyzing the data. Explores cartographic, index, and statistical attribute data by leading you through sample applications.

Chapter 3 ***Database concepts and organization***
Discusses such data elements as coverages and attributes and explains how they have been organized in the ArcUSA database. Presents basic database concepts like projection and scale. Lists data sources.

Chapter 4 ***In greater detail: The ArcUSA 1:2M layers***
Examines in detail the geographic features represented by each data layer. Presents definitions and codes for all of the feature attributes. This is the chapter you'll use most often during a work session.

Chapter 5 ***The ArcUSA 1:25M layers***
Describes the features and attribute definitions for the ArcUSA 1:25M data set.

Chapter 6 ***Using the database***
Suggests strategies for using the database to display and query, and gives information about advanced applications like data export. Strategies apply to both ArcView and ARC/INFO users.

Appendixes A to E Describe enhancements made during database development. Present attribute field definitions for both INFO and dBASE formats for use with advanced applications that use ARC/INFO and ArcCAD. List Federal Information Processing Standards (FIPS) codes and sources of additional information.

Index Provides information by a topic or key word.

Chapter 1

What is ArcUSA?

A flexible U.S. database at two scales

The ArcUSA database contains data for the coterminous United States at two scales. The ArcUSA 1:2M data set is larger in both scale and content. It was developed at a nominal scale of 1:2,000,000 (the "M" in "1:2M" stands for "million"), and it contains representations of more than 100,000 features and more than 1,000 attributes. The ArcUSA 1:25M data set represents a smaller-scale map and contains a sample of the features and thematic attributes from the 1:2M database. It complements the larger data set by allowing a quick overview of the ArcUSA database contents.

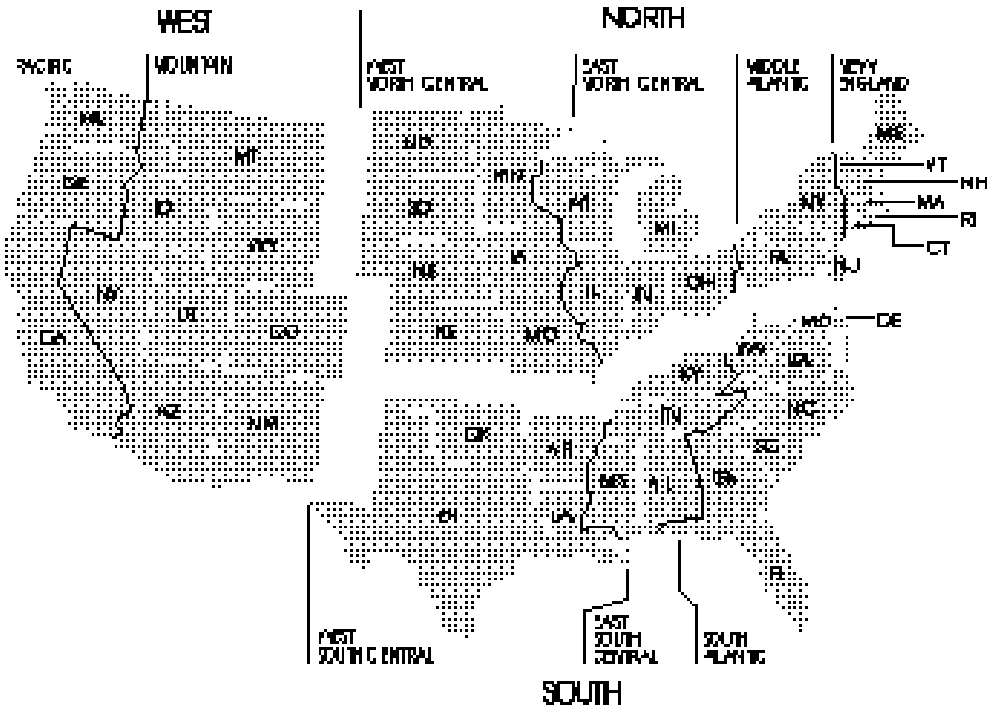
The ArcUSA database contains a broad range of data, including cartographic features (state and county boundaries, roads, railroads, rivers, lakes, federal land areas, county seats); indexes (latitude/longitude grids, USGS topographic maps, Landsat scenes); and statistical attributes for states and counties (population by age and race, income, hospitals and doctors, local government spending, major soil types, agricultural products raised and sold). The user may also add layers, either to tailor the database to a specific application or to provide a more exhaustive treatment of any of the data types already present.

ArcUSA data are formatted in both UNIX ARC/INFO and PC ARC/INFO® coverages and can be used with the following:

- ArcView for UNIX and Windows
- PC ARC/INFO Rev. 3.4D and higher
- ARC/INFO Rev. 6.0 and higher on UNIX workstations
- ArcCAD Version 11 and higher

PC ARC/INFO coverages store attributes in dBASE format. Thus, other MS-DOS application software tools can be used with the ArcUSA database.

U.S. regions and subregions



U.S. regions and subregions

Some ArcUSA 1:2M data layers are divided into three major regions encompassing states in the north, south, and west. Most ArcUSA features are also assigned to a subregion (e.g., Pacific, Middle Atlantic) so you have an easy means of selecting a small multistate area for display or study. These state groups are the same as the Census Bureau's, except that the Census Bureau considers New England to be a fourth major region instead of a subregion.

The ArcUSA 1:25M data set is for the full extent of the coterminous United States only. It can function as a stand-alone database or as a complement of the ArcUSA 1:2M database.

The ArcUSA database you have licensed may contain either of the following data sets:

- ArcUSA 1:2M (Full Extent), *plus* ArcUSA 1:25M
- ArcUSA 1:25M

The ArcUSA 1:2M data are delivered in two coordinate systems: the Albers Conic Equal-Area projection in meters and geographic coordinates (latitude/longitude) in decimal degrees. The ArcUSA 1:25M data are delivered only in the Albers Conic Equal-Area projection.

ArcUSA database layer summary tables

The four tables that begin on the next page summarize the ArcUSA database. Tables 1 through 3 describe the 1:2M cartographic, index, and statistical attribute layers; coverage names are listed for the entire United States as well as for the three regions. (Regional coverage names end in "N" for north, "S" for south, and "W" for west.) Table 4 describes the 1:25M layers.

The coverage sizes in the tables are approximate. In UNIX format, some information is stored in a separate directory, so the overall database sizes listed in Table 1 of "Getting Started" are larger than the sum of the component coverages.

Table 1: ArcUSA 1:2M cartographic layers

Layer	Features	Attributes	Source, Currency	Coverage Names	Size (MB)	
					dBASE	UNIX
County Boundaries	Polygons: 4,409 counties, independent cities Lines: 10,485 county and independent city boundaries	Polygon attributes: 7 county and state names, FIPS codes, U.S. subregion Line attributes: 4 boundary type, geogr. reference	USGS—Digital Line Graphs (DLG), 1988	CTY2M	5.37	4.78
Federal Lands	Polygons: 2,741 national parks, recreation areas, Indian reservations	Polygon attributes: 9 area type codes and names, state name, FIPS, subregion	USGS—DLG, 1980	FED2M	2.24	2.33
Lakes and Other Water Bodies	Polygons: 6,365 lakes, reservoirs, marshes, islands	Polygon attributes: 5 type, type name, state, state FIPS, subregion	USGS—DLG, 1980	LAK2M LAK2M_N LAK2M_S LAK2M_W	3.97 1.78 1.30 0.92	3.93 1.81 1.35 0.95
Land/Ocean Display	Polygons: 1,471 land, water Lines: 1,860 features, grid Annotation: Canada, Mexico	Polygon attributes: 1 land/water code Line attributes: 1 feature/grid code	ESRI—ArcWorld, 1992	LAND2M	1.53	1.47
Map Elements	Polygons: 15 scale bar, North arrow Lines: 43 scale bar, North arrow Annotation: map title, scale	Polygon attributes: 1 area fill code Line attributes: 0	ESRI, 1992	SC_2M	0.02	0.03
Place Names	Points: 5,062 county seats, national forest and park names, lake locations	Point attributes: 10 feature name, type, elevation, geogr. reference	USGS—Concise Digital Database, 1973	NAM2M	1.10	0.96
Railroads	Lines: 12,182 railroad lines	Line attributes: 5 railroad line class, state name, FIPS, subregion	USGS—DLG, 1979	RR2M	4.94	4.37
Rivers and Streams	Lines: 38,734 perennial, intermittent, and braided rivers, canals	Line attributes: 5 river type, name, state name, FIPS, subregion	USGS—DLG, 1973	RIV2M	16.48	14.50
Roads	Lines: 28,730 Interstates, U.S and state highways, unimproved roads	Line attributes: 22 road classes, route numbers, geogr. reference	USGS—DLG, 1980	RDS2M	15.81	14.31
State Boundaries	Polygons: 1,295 states Lines: 1,607 state and international boundaries, shorelines	Polygon attributes: 4 state name Line attributes: 4 boundary type, geogr. reference	USGS—DLG, 1973	ST2M	1.67	1.59

Table 2: ArcUSA 1:2M index layers

Layer	Features	Attributes	Source, Currency	Coverage Names	Size (MB)	
					dBASE	UNIX
Landsat Nominal Scene Index	Points: 702 scene center points	Point attributes: 15 path, row, states covered, lat./long. of point	EOSAT—algorithm generated, 1992	SAT_PT	0.18	0.18
	Lines: 702 scene coverages	Line attributes: 15 path, row, states covered, lat./long. of footprint	EOSAT—algorithm generated, 1992	SAT_BND	0.24	0.22
Latitude/ Longitude Grids	Lines: 1,225 2 by 2 degree grid	Line attributes: 3 latitude, longitude, U.S. or non-U.S. code	ESRI—algorithm generated, 1992	LTLG2	2.63	0.23
	Lines: 314 5 by 5 degree grid			LTLG5	0.08	0.08
	Lines: 134 10 by 10 degree grid			LTLG10	0.04	0.06
USGS 1:24,000 Topographic Quadrangle Series Index	Polygons: 53,911 1:24,000-scale map areas	Polygon attributes: 19 quad name and ID, states covered, map date, edition	USGS—various ESRI—algorithm generated, 1986	Q_24K Q_24KN Q_24KS Q_24KW	26.41 8.82 7.47 10.52	26.01 8.82 7.49 10.47
USGS 1:100,000 Topographic Quadrangle Series Index	Polygons: 1,809 1:100,000-scale map areas	Polygon attributes: 12 quad name and ID, states covered, map date,edition	USGS—various ESRI—algorithm generated, 1986	Q_100K	1.18	1.35
USGS 1:250,000 Topographic Quadrangle Series Index	Polygons: 488 1:250,000-scale map series	Polygon attributes: 13 quad name and ID, states covered, map date, edition	USGS—various ESRI—algorithm generated, 1986	Q_250K	0.42	0.44

Table 3: ArcUSA 1:2M state and county statistical attribute layers

Layer	Features	Attributes	Source, Currency	Coverage Names	Size (MB)	
					dBASE	UNIX
1990 U.S. Census P-L 94-171 Data by State	Polygons: 1,295 states Lines: 1,607 state boundaries	Polygon attributes: 57 population by race, ethnicity, and age Line attributes: 4 boundary types	USGS—DLG, 1973 U.S. Census Bureau, 1990	POP90S	2.49	1.87
By County	Polygons: 4,409 counties Lines: 10,485 county boundaries	Polygon attributes: 60 Line attributes: 4	USGS—DLG, 1988 U.S. Census Bureau, 1990	POP90C	8.17	5.69
Agricultural Product Inventory by State	Polygons: 1,295 states Lines: 1,607 state boundaries	Poly. attributes: 107 farm size, number, products raised by farm and area or number Line attributes: 4 boundary types	USGS—DLG, 1973 U.S. Census of Agriculture, 1987	AGIN_S	3.94	2.64
By County	Polygons: 4,409 counties Lines: 10,485 county boundaries	Poly. attributes: 110 Line attributes: 4	USGS—DLG, 1988 U.S. Census of Agriculture, 1987	AGIN_C	13.11	8.33
Agricultural Product Market Value by State	Polygons: 1,295 states Lines: 1,607 state boundaries	Poly. attributes: 92 farms by value of products; products by value and quantity sold Line attributes: 4 boundary types	USGS—DLG, 1973 U.S. Census of Agriculture, 1987	AGVL_S	3.61	2.49
By County	Polygons: 4,409 counties Lines: 10,485 county boundaries	Polygon attributes: 95 Line attributes: 4	USGS—DLG, 1988 U.S. Census of Agriculture, 1987	AGVL_C	11.97	7.81
Demographic and Health Attributes by State	Polygons: 1,295 states Lines: 1,607 state boundaries	Polygon attributes: 48 population, vital statistics, migration Line attributes: 4 Boundary types	USGS—DLG, 1973 U.S. Census—County & City Data Book, 1988	POP88S	2.36	1.82
By County	Polygons: 4,409 counties Lines: 10,485 county boundaries	Polygon attributes: 55 Line attributes: 4	USGS—DLG, 1988 U.S. Census—County & City Data Book, 1988	POP88C	7.91	5.67

Table 3: ArcUSA 1:2M state and county statistical attribute layers, continued

Layer	Features	Attributes	Source, Currency	Coverage Names	Size (MB)	
					dBASE	UNIX
Environ-mental Attributes	Polygons: 4,409 counties Lines: 10,485 county boundaries	Polygon attributes: 63 land capability, land use, soil orders, surface mining Line attributes: 4 boundary types	USGS—DLG, 1988 Oak Ridge National Lab.—GeoEcology database, 1967–1979	ENVIR	8.33	5.74
Government & Financial Attributes by State	Polygons: 1,295 states Lines: 1,607 state boundaries	Polygon attributes: 34 Federal grants to local gov'ts; local gov't spending on police, education, highways Line attributes: 4 boundary types, geogr. reference	USGS—DLG, 1973 U.S. Census—County & City Data Book, 1988	GOV88S	2.13	1.74
By County	Polygons: 4,409 counties Lines: 10,485 county boundaries	Polygon attributes: 41 Line attributes: 4	USGS—DLG, 1988 U.S. Census—County & City Data Book, 1988	GOV88C	7.12	5.43
Socio-economic Attributes by State	Polygons: 1,295 states Lines: 1,607 state boundaries	Polygon attributes: 47 Social Security, crime, education, income and poverty, housing Line attributes: 4 boundary types, geogr. reference	USGS—DLG, 1973 U.S. Census—County & City Data Book, 1988	SOC88S	1.00	1.82
By County	Polygons: 4,409 counties Lines: 10,485 county boundaries	Polygon attributes: 54 Line attributes: 4	USGS—DLG, 1988 U.S. Census—County & City Data Book, 1988	SOC88C	7.80	5.67

Table 4: ArcUSA 1:25M layers

Layer	Features	Attributes	Source, Currency	Coverage Names	Size (MB)	
					dBASE	UNIX
Cities	Points: 108 major cities, state capitals	Point attributes: 9 city name, type	USGS—Concise Digital Database, 1973	CITIES	0.03	0.04
County Boundaries	Polygons: 3,444 counties, independent cities Lines: 9,496 county and state boundaries, shorelines	Polygon attributes: 7 county and state names, FIPS codes, U.S. subregion Line attributes: 4 boundary type, geogr. reference	USGS—Digital Line Graphs, 1988	CTY_25M	3.20	2.73
Land/Ocean Display	Polygons: 510 land, water Lines: 749 features, grid Annotation: Canada, Mexico	Polygon attributes: 1 land/water code Line attributes: 1 feature/grid code	ESRI—ArcWorld, 1992	LAND25M	0.40	0.50
Map Elements	Polygons: scale bar, North arrow Lines: scale bar, North arrow Annotation: map title, scale	Polygon attributes: area fill code Line attributes: 0	ESRI, 1992	SC_25M	0.02	0.03
Rivers	Lines: 2,162 perennial & intermittent rivers, braided streams, canals	Line attributes: 5 river types, geogr. reference	USGS—DLG, 1973	RIV_25M	0.52	0.46
Roads	Lines: 4,658 Interstates, U.S. and state highways	Line attributes: 11 road types, route numbers, geogr. reference	USGS—DLG, 1988	RDS_25M	0.93	0.75
State Boundaries	Polygons: 336 states Lines: 472 state and international boundaries, shorelines	Polygon attributes: 4 states, geogr. reference Line attributes: 4 boundary types, geogr. reference	USGS—DLG, 1973	ST_25M	0.34	0.35

Table 4: ArcUSA 1:25M layers, continued

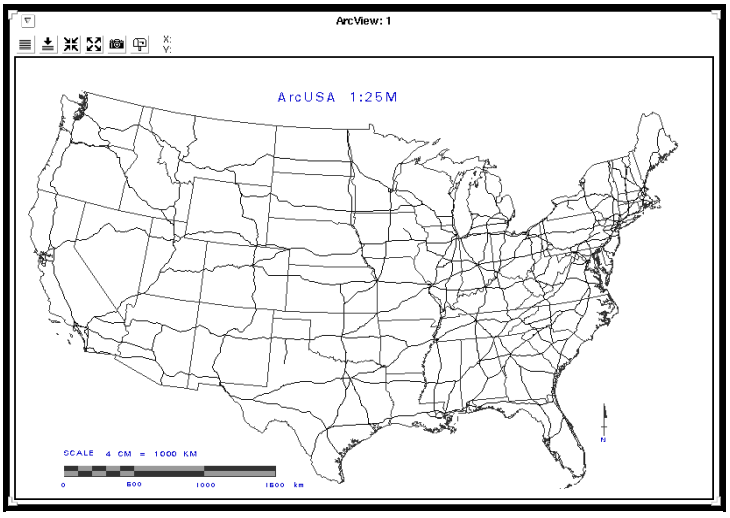
Layer	Features	Attributes	Source, Currency	Coverage Names	Size (MB)	
					dBASE	UNIX
Statistical Attributes by State	Polygons: 336 states	Polygon attributes: 41 population by race and age, income, crime, farmland and farm sales	USGS—DLG,1973 Various attribute sources	STATS_S	0.49	0.40
	Lines: 472 state and international boundaries, shorelines	Line attributes: 4 boundary type, geogr. reference				
By County	Polygons: 3,444 counties	Polygon attributes: 50 population by race and age, income, crime, farmland and farm sales, soils	USGS—DLG, 1988 Various attribute sources	STATS_C	5.00	3.37
	Lines: 9,496 county boundaries, shorelines	Line attributes: 4 boundary types, geogr. reference				

Chapter 2

Exploring the ArcUSA database

This guided tour introduces ArcView users to the ArcUSA database by exploring the precomposed views included with the data. The tour does not cover all aspects of the database, but it does illustrate some of the ways in which the data at both the 1:2,000,000 and 1:25,000,000 scales can be used. By following the exercises in this chapter, you will be better able to explore the data on your own.

You will gain the most from these exercises if you are familiar with ArcView functions. The emphasis of this tutorial is on exploring the database and not on how to use the software tools, so it is recommended that you first do the exercises in Chapter 2 of the *ArcView User's Guide*.



This chapter will help you become familiar with the ArcUSA data, such as the 1:25M Roads coverage shown in this ArcView display.

In the first two exercises, you will look at U.S. migration trends at the state and county levels from 1980 to 1986, and explore potential relationships between these migration trends and other statistical variables (or attributes) present in the ArcUSA database. The third exercise teaches you how to create and analyze bivariate maps. The fourth exercise involves preparing a coastal basemap, and exploring the geographic factors involved in assessing the potential impact of a large oceanic storm on a coastal area. The last exercise explores data documentation views.

The exercises are independent of each other and can be done in any order. However, because data display and query operations are described in more detail in the first exercise, you are likely to gain more from the later exercises if you try the "migration" exercises first.

Getting started

Begin by loading ArcView; if you haven't already loaded and started ArcView, please see the ArcView installation instructions.

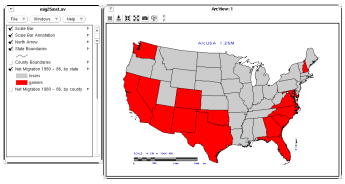
Next, load your ArcUSA data set (see the *ArcUSA 1:2M Installation Instructions*). The "views" directory includes a series of precomposed ArcView displays to guide you through the tour.

Exploring U.S. migration trends 1980 to 1986, by state

In this exercise, you'll explore migration trends at the state level. Begin by opening the view "mig25mst.av" that displays the ArcUSA 1:25M state boundaries layer for the coterminous United States.

1. **Click on the check box for the theme named "Net Migration 1980 - 86, by state".**

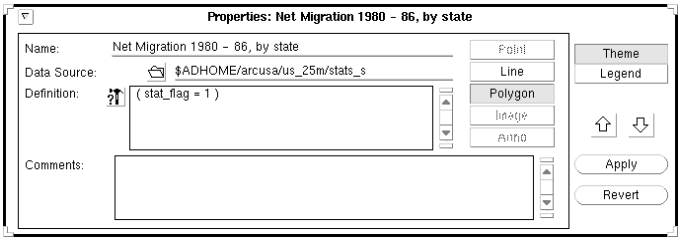
   You will see a thematic map showing states that lost or gained population due to migration from 1980 to 1986. (Net migration, "net_migr" is one of the variables in the ArcUSA 1:25M "stats_s" coverage that contains selected statistical attribute data at the state level.)



The upper peninsula of Michigan is not shaded because it is not the largest polygon for the state. See "Note to user" on page 2-4 for more information about the "stat_flag" attribute.

2. **Double click on the theme "Net Migration 1980 - 86, by state".**

   The Theme Property Sheet will appear below the Table of Contents. Notice that the attribute "stat_flag" has been preset to equal "1". Quit from the property sheet to continue.

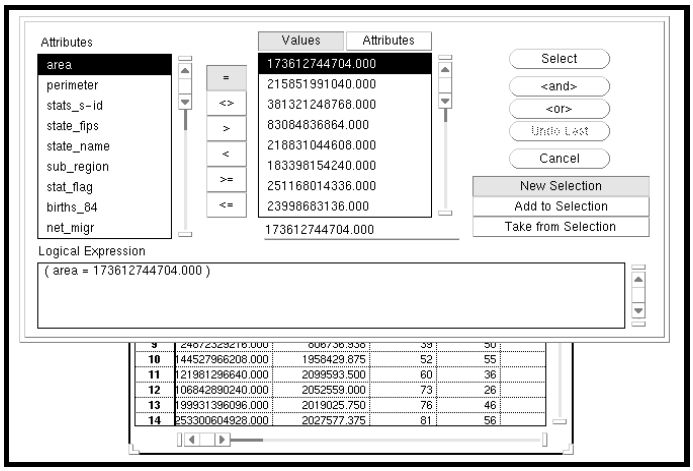


Setting the "stat_flag" attribute equal to "1" through the Query Builder provides accurate summary statistics for any selected state. See the note on the next page for more information about the "stat_flag" attribute.

3. In the Table of Contents, select the Table option from the theme-specific menu for "Net Migration 1980 - 86, by state".

This allows you to access information about the total number of people who migrated into or out of a given state from 1980 to 1986. Use the scroll bar to view the full extent of the attributes contained within the "stat_s" coverage.

4. Select the Query Builder icon in the "Net Migration 1980 - 86, by state" table.



Note to user...

The database includes one record for every polygon included in a particular state or county. If a state includes offshore islands, the database includes a separate record for each individual island. The geographic information for that state is repeated in each polygon record for each island. To identify the largest land area polygon in each state, use the Query Builder in the theme's property sheet or table to create a logical expression with the "stat_flag" attribute set equal to "1". This will ensure that values for each state are counted only once during tabular queries.

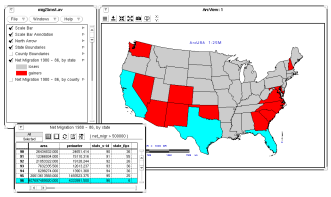
5. Click on the attribute "net_migr" in the scrolling list of attributes.

6. Choose ">" from the operators; then enter the number "500000" on the line below the "Values/Attributes" box.

The logical expression now reads (net_migr > 500000).

7. Click "Select."

Your map will now show California, Texas, and Florida highlighted (within the graphic display and the table) as states that gained more than 500,000 people because of net migration from 1980 to 1986.

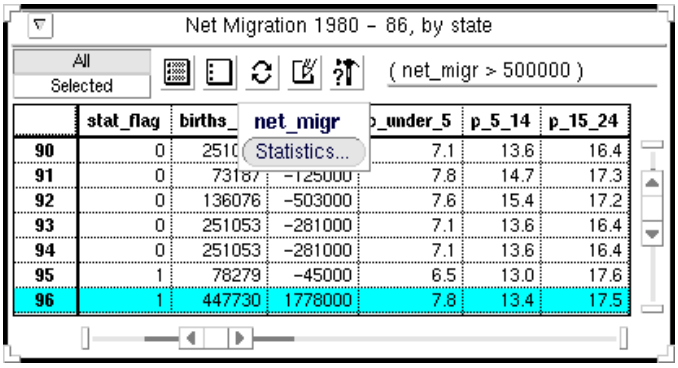


Use a logical expression to create a more focused selection set; in this case, to identify the states that gained the most people.

8. Click on the "net_migr" attribute in the table and select "Statistics."

Use the scroll bar to scroll right to the appropriate section of the table. After "Statistics" for "net_migr" is selected, a window pops up that displays the count, sum, minimum, maximum, and mean values for the specified attribute both for all records contained in the layer and records specific to the selected set. The "sum" is not equal to zero because this attribute reflects not only migration from other states, but also migration from other countries.

Within this statistics window, you'll see that the maximum net migration from 1980 to 1986 was 1,778,000.



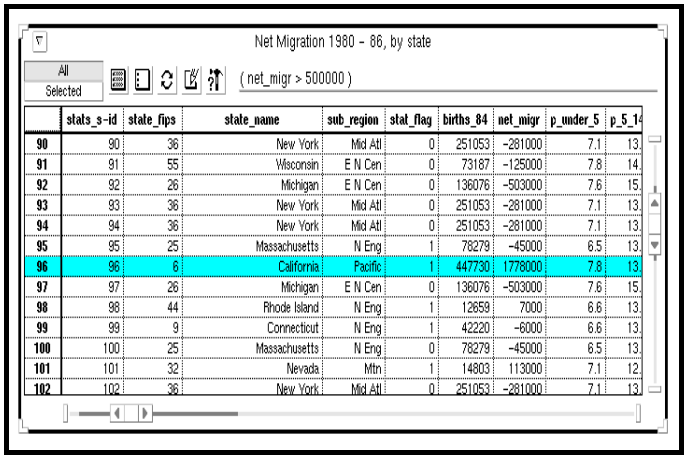
	stat_flag	births_	net_migr	p_under_5	p_5_14	p_15_24
90	0	2510		7.1	13.6	16.4
91	0	73187	-125000	7.8	14.7	17.3
92	0	136076	-503000	7.6	15.4	17.2
93	0	251053	-281000	7.1	13.6	16.4
94	0	251053	-281000	7.1	13.6	16.4
95	1	78279	-45000	6.5	13.0	17.6
96	1	447730	1778000	7.8	13.4	17.5

When you set the "stat_flag" attribute equal to "1", the proper total values display in the "Statistics" window.

9. Click "Dismiss."

10. Enlarge the table window so that the "state_name" and "net_migr" attributes are contained within the window area.

California gained 1,778,000 as a result of net migration from 1980 to 1986. Move the table down below the graphic display prior to continuing.



	stats_s-id	state_fips	state_name	sub_region	stat_flag	births_84	net_migr	p_under_5	p_5_14
90	90	36	New York	Mid Atl	0	251053	-281000	7.1	13.
91	91	55	Wisconsin	E N Cen	0	73187	-125000	7.8	14.
92	92	26	Michigan	E N Cen	0	136076	-503000	7.6	15.
93	93	36	New York	Mid Atl	0	251053	-281000	7.1	13.
94	94	36	New York	Mid Atl	0	251053	-281000	7.1	13.
95	95	25	Massachusetts	N Eng	1	78279	-45000	6.5	13.
96	96	6	California	Pacific	1	447730	1778000	7.8	13.
97	97	26	Michigan	E N Cen	0	136076	-503000	7.6	15.
98	98	44	Rhode Island	N Eng	1	12658	7000	6.6	13.
99	99	9	Connecticut	N Eng	1	42220	-6000	6.6	13.
100	100	25	Massachusetts	N Eng	0	78279	-45000	6.5	13.
101	101	32	Nevada	Mtn	1	14803	113000	7.1	12.
102	102	36	New York	Mid Atl	0	251053	-281000	7.1	13.

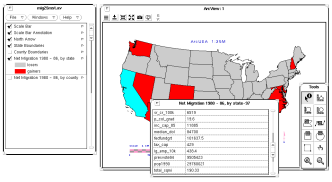
11. Click once on "Net Migration 1980 - 86, by State" within the Table of Contents to highlight the theme.

12. Select the Identify tool from the Tool Palette.

13. Click once on the state of California with the Identify tool.

A window pops up that contains all attributes within the 1:25M "stat_s" coverage for the state of California.

14. Scroll to the attribute "tax_cap" within the pop-up window.



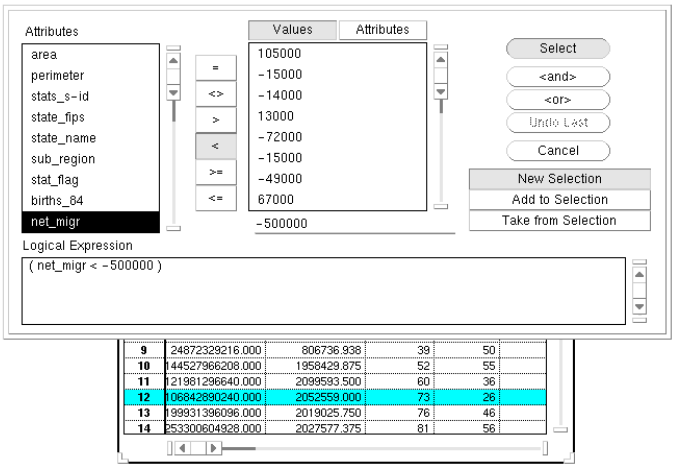
This attribute represents local government taxes for 1981–1982, in dollars per capita. Californians paid an average of $429 per capita to local government during 1981–1982. Keep this window up for later comparison.

15. Click on the Query Builder icon within the table.

16. Click on the attribute "net_migr" within the scrolling list of attributes.

17. Choose "<" from the operators and enter "–500000" on the line below the "Values/Attributes" box.

The logical expression now reads (net_migr < –500000).



18. Click "Select."

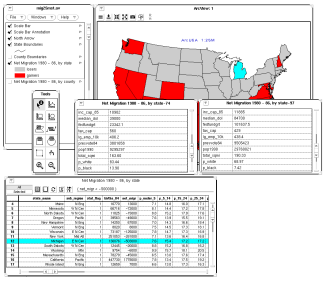
Michigan will be highlighted as the only state that lost more than 500,000 people because of net migration from 1980 to 1986.

19. Click once on the state of Michigan with the Identify tool from the palette.

A window pops up that contains all attributes within the "stat_s" coverage for Michigan.

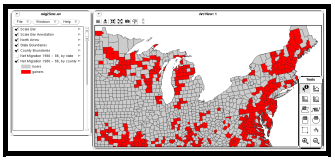
20. Scroll to the attribute "tax_cap" within the pop-up window.

Comparing this figure to the average of $429 for California may help explain the difference in net migration between the two states. The people of Michigan paid an average of $560 per capita to local government during 1981–1982.



Exploring U.S. migration trends 1980 to 1986, by county

You have seen how you can use the ArcUSA database to look at summary-level migration patterns by state. You can also use the database to see finer resolution patterns at the county level. Begin by opening the existing view "mig25mc.av". A thematic map showing county-level migration patterns in the Northeastern region of the United States draws to the screen.



1. **Double click on the theme "Net Migration 1980 - 86, by county".**

   The property sheet will appear below the Table of Contents. Notice that the attribute "stat_flag" has been preset to equal "1" in order to identify the largest land area polygon for each county. Quit from the property sheet prior to continuing.

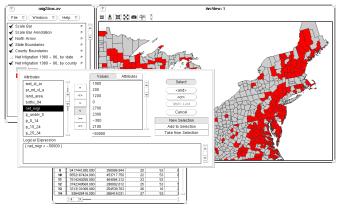
2. **Pick the Table option from the theme-specific menu for "Net Migration 1980 - 86, by county".**

   A table pops up presenting all attributes available in the 1:25M "stat_c" coverage for each county in the coterminous United States.

3. **Click on the Query Builder icon within the "Net Migration 1980 - 86, by county" table.**

4. **Click on "net_migr" in the scrolling list of attributes.**

5. **Select "<" from the operators and enter "–50000" on the line below the "Values/Attributes" box.**



   The logical expression within the box will now read (net_migr < –50000).

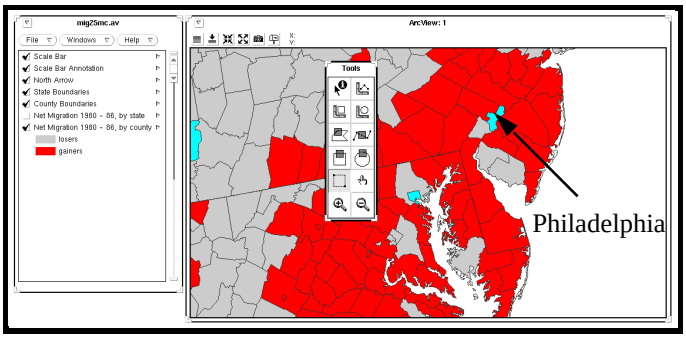
6. **Click "Select."**

   The following nine counties are identified as having lost more than 50,000 people from 1980 to 1986:

   • Milwaukee County, Wis.
   • Cook County, Ill. (Chicago)
   • Lake County, Ind. (Greater Chicago)
   • Wayne County, Mich. (Detroit)
   • Cuyahoga County, Ohio (Cleveland)
   • Allegheny County., Pa. (Pittsburgh)
   • Erie County, N.Y. (Buffalo)
   • Baltimore City County, Md.
   • Philadelphia County, Pa.

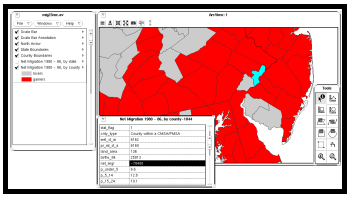
   Note that the nine counties that lost the highest number of people because of net migration from 1980 to 1986 were all metropolitan counties within the "Rust Belt." In the following steps, you will examine the attributes for "loser" and "gainer" counties that represent potential factors in the negative growth of urban counties and the positive growth of suburban counties.

7. **Use the "Zoom to Box" tool from the palette to zoom in on the area around Philadelphia, Pennsylvania.**



8. **Click once on "Net Migration 1980 - 86, by County" within the Table of Contents to highlight the theme.**

9. **Using the Identify tool from the palette, click once on Philadelphia, Pennsylvania.**

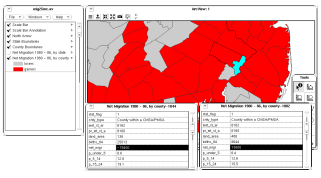


A pop-up window containing various attributes contained within the "stats_c" coverage appears for this "loser" county.

10. **Using the Identify tool again, click once on Montgomery County, Pennsylvania.**

This county which borders Philadelphia to the west, is a "gainer" county.

11. **Scroll down to the attribute "net_migr" in both pop-up windows.**



Notice that Philadelphia lost 78,400 people due to net migration during 1980–86. Montgomery County gained 13,600.

12. Scroll farther down to the attribute "sr_cr_100k".

This attribute represents the number of serious crimes per 100,000 people. The occurrence of serious crime in Philadelphia was higher than in Montgomery County. (For comparison, the average occurrence of serious crime per 100,000 people within the nine selected counties is 6,170 for this time period; the national average is 2,706.) These figures can be determined by using the "Statistics" tool for "sr_cr_100k" in the attribute table for "Net Migration 1980 - 86, by county".

13. Continue scrolling down in the windows to the attribute "inc_cap_85".

This attribute represents income per capita (1985). Per capita income was higher in Montgomery County than in Philadelphia, and is another possible factor in the difference in migration between the two counties.

14. You may continue to explore differences in attributes between these two counties.

Bivariate mapping using ArcUSA 1:2M attributes

The views presented thus far in this tour have used data from the ArcUSA 1:25M coverages. The ArcUSA 1:2M coverages include a much greater variety of statistical data, as well as a much higher level of detail for cartographic features like roads or rivers. In the following exercise, a sample data set using the 1:2M attributes for the state of Georgia is used to experiment with bivariate mapping techniques.

For more information about bivariate mapping, see Chapter 6.

1. **Open the view titled "bivar2m.av".**

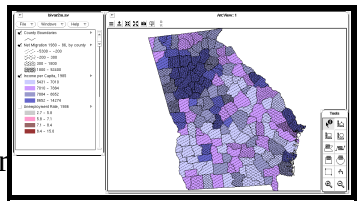
   Patterns representing positive and negative net migration at the county level are drawn in the graphic display.

Tip

To increase drawing speed, use the ArcUSA 1:25M coverages to draw state or county boundaries. The state and county boundaries in the ArcUSA 1:2M database are much more detailed than those in ArcUSA 1:25M (although both versions contain the same number of states and counties), so they take longer to draw on the screen. (When you draw a basemap, as opposed to a thematic map, you may want the greater detail present in the 1:2M data; for example, you may want to use the 1:2M data for the "Storm" exercise that follows.)

2. Click on the check box to the left of the theme for "Income per Capita, 1985".

This variable is symbolized with color and draws beneath the shade pattern that represents net migration. Examine the relationship between net migration and income per capita. The general pattern shows that counties with the lowest income per capita also experienced the highest loss due to migration.

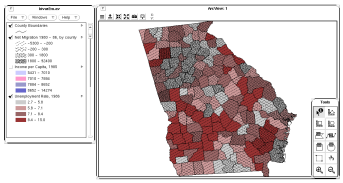


Use a pattern and a color to display two variables together. Note that the variable symbolized using a pattern must be placed above the second variable in the Table of Contents so that the patterns draw over the colors.

3. Click off the check box for "Income per Capita, 1985".

4. Click on the check box for "Unemployment Rate, 1986".

Again, examine the relationship between the two variables. Did the counties with high unemployment rates also experience high loss due to net migration? The dark shade/light pattern combination indicates "loser" counties with high unemployment.



On your own...

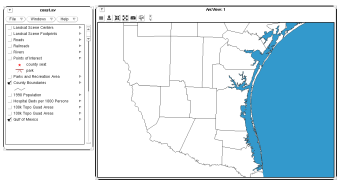
Explore the relationships between other 1:2M "pop88c" and "soc88c" variables and net migration, or introduce a new dependent variable and examine its potential as a causal factor.

Landfall of a large oceanic storm

This exercise displays information that would be useful for emergency planning if a large oceanic storm were expected to come ashore along a portion of the U.S. coast. Some of the themes in this view would be appropriate for drawing a coastal basemap.

1. Begin by opening the view "coast.av".

County boundaries in the southern portion of Texas draw to the screen with the Gulf of Mexico shaded (by using a theme that references the "land2m" coverage). Within the Table of Contents, note that the "land" attribute for the theme "Gulf of Mexico" is symbolized with white. Because the land is drawn first, the graphic display will appear blank until the water is drawn.



A coastal basemap with offshore water shaded. The "land2m" or "land25m" layers can also be used to display Mexico and Canada in a different color than the United States. To do this, assign the "land" attribute a color other than white and then draw the U.S. state or county area polygons in a contrasting color.

Note to user...

The time required for accessing data once you open a view depends partly on the type of platform you are using. Also, a view that references large data sets (like those in the ArcUSA 1:2M coverages) requires more time for data access than views that reference smaller data sets (like those in the ArcUSA 1:25M coverages).

2. **Click on the check box to the left of the theme for "Parks and Recreation Areas".**

   National parks, recreation areas, and other federally administered areas are shaded green.

3. **Click on the check box to the left of the themes for "Parks" and "County Seats".**

   The names and locations of all county seats, as well as the names of many coastal parks and recreation areas, draw to the screen. Notice that there are several large coastal parks that might require evacuation if a large storm came in off the ocean.

4. **Click off the check boxes to the left of "Parks" and "County Seats"**.

5. **Click on the check box to the left of "1990 Population".**

   A thematic map representing 1990 population draws in the graphic display. You might want to select the "Show Legend" option from the theme-specific menu for the themes as they are drawn.

Tip

To make room for new theme legends in the Table of Contents, use the "Hide Legend" option in the theme-specific menu (see page 2-9 in the *ArcView User's Guide* for more information on "Hide Legend" and "Show Legend"). Or, drag on the lower right-hand corner of the Table of Contents box to enlarge the available legend display space.

6. **Click on the check box to the left of the theme for "Doctors per 100K People".**

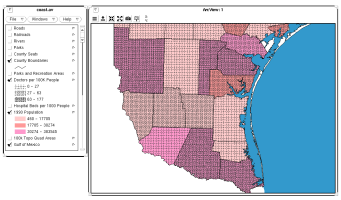
   The symbol for this variable is a pattern that draws over the shades that represent 1990 population. Notice that there are five counties in the highest population range with a high number of doctors per 100,000 people.

7. **Click off the check box to the left of "Doctors per 100K People".**

8. **Click on the check box to the left of the theme for "Hospital Beds per 1000 People".**

   The symbol for this variable is also a pattern that draws over the population variable. Notice that there are three counties in the highest population range with a high number of hospital beds per 1,000 people.

9. **Click off the check box to the left of the themes for "Hospital Beds per 1000 People" and "1990 Population".**



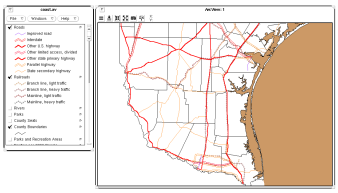
The relationship between population and number of doctors per 100,000 people can be compared by using the bivariate mapping technique.

On your own...

You may use the Identify tool from the Palette to gain more information about a county or feature. Remember to highlight the theme you would like to query by clicking on the theme name once within the Table of Contents.

10. Click on the check box to the left of the "Roads" and "Railroads" themes.

Evaluate the transportation network for routes out of the coastal area should an evacuation become necessary.

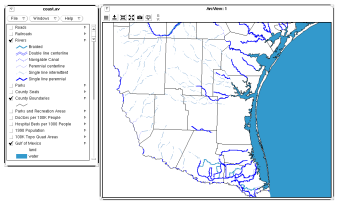


The coastal transportation network is symbolized using the simplified road classes (for more information on the "road_class" attribute, see Chapter 4). The Digital Line Graph classifications carried in the "dlg_class" attributes offer alternatives for symbolizing the roads network.

11. Click off the check box for the "Roads" and "Railroads" themes.

12. Click on the check box to the left of the "Rivers" theme.

This information is useful for determining which areas might be prone to flooding in the event of a large oceanic storm.

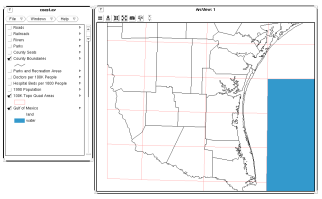


A map of coastal rivers and estuaries. You may draw the "Rivers" theme with the two transportation themes to evaluate the probability of flooding on or near transportation lines.

13. Click off the check box to the left of the "Rivers" theme.

14. Click on the check box to the left of the "100K Topo Quad Areas".

This theme displays areas covered by USGS topographic quadrangles. If you decide that you need a more detailed source, determine which quadrangle covers your area of interest by using the Identify tool from the palette.



Locate the USGS 1:100,000-scale quadrangle that covers your area of interest.

Data documentation views

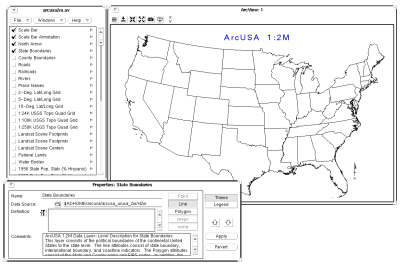
Accompanying the ArcUSA database are two views ("arcusa2M.av" and "arcusa25M.av") that provide summary information about the data. When you enter one of these views, you will first see a display of state boundaries for the full extent of the database, as well as a title, scale bar, and North arrow.

1. **Click on the check box for any theme to display a sample of the indicated data.**

   Displays of certain cartographic coverages, such as roads, are limited to a single state or region because of feature density.

2. **Double click on any theme within arcusa2m.av or arcusa25m.av.**

   Within the comments box in the Theme Property Sheet, you can access basic information about the content of any of the ArcUSA coverages.



Note that when you enter the Theme Property Sheet, the bottom portion of the comments text block will appear. Use the scroll bar at the right of the comments box to move to the top of the text block.

Ideas for other ways to use ArcUSA

The exercises in this guided tour provide only an introduction to the content and the capabilities of the ArcUSA database. The following table lists just a few of the many other issues you might want to explore by using the data. Next to each issue are some of the attributes in the ArcUSA 1:2M coverages that might be of interest.

Table 1: Other views

Issues	Attributes	Layer
Planning new schools	% Pop. Under 5 Yrs., 1984	Demographic and Health Attributes
Planning care facilities for elderly	% Pop. 65 to 74 Yrs., 1984 % Pop. Over 74 Yrs., 1984	Demographic and Health Attributes
Areas gaining political clout	% Pop. 18 Yrs. or Older, 1990	1990 Census, Public Law 94-171
Areas most concerned about animal growth hormone regulations	Farms with Beef Cows, 1987	Agricultural Product Inventory
Areas where water shortages may affect agriculture	Irrigated Land in Acres, 1987 Farms with Irrigated Land, 1987	Agricultural Product Inventory
Areas potentially most affected by greater access to Japanese rice market	Acres of Rice, 1987 Rice Harvested (100 lbs.)	Agricultural Product Inventory
Areas potentially most affected by changes in federal tobacco subsidies	Farms with Tobacco, 1987 Acres of Tobacco Harvested, 1987	Agricultural Product Inventory
Areas affected by potential reclamation of mines	Total Disturbed Land % Disturbed Land	Environmental Attributes
Planning access to materials for massive highway construction	Land in Sand/Gravel Extraction % Land in Sand/Gravel Extract.	Environmental Attributes
Potential sites for mining peat	% Land Area in Histosol Soils Land Area in Histosol Soils	Environmental Attributes

Chapter 3

Database concepts and organization

This chapter defines several basic database terms and explains how the ArcUSA database is organized. The standards and procedures employed during the development of the database are discussed, and the sources for the ArcUSA data are described. The information in this chapter applies to all components of the database, so it may be helpful to read this chapter before reading Chapters 4 and 5, which contain a detailed descriptions of each data layer.

Concepts and terms

A map is a graphic display of spatially distributed elements called map features which correspond to real-world geographic entities. These real-world entities are located spatially on maps by means of points, lines, and areas.

- *Points* define discrete locations on a map for geographic phenomena that are too small to be depicted as lines or areas, such as well locations, telephone poles, and buildings. Points can also represent locations that have no area, such as mountain peaks. In the ArcUSA database, points are used to represent cities and satellite scene centers.
- *Lines* represent the shapes of geographic objects that are too narrow to depict as areas (such as highways and streams).
- *Areas* are closed figures that represent the shapes and locations of homogeneous features such as states, counties, parcels, and water bodies.

The characteristics, or attributes, of map features may also be conveyed by using labels or graphic symbols. For example, streams and water bodies are

drawn in blue to indicate water; city streets are labeled with their names; roads are drawn with various line widths, patterns, and colors to represent different road classes; and so on.

In addition to displaying feature locations and attributes, maps are typically characterized by the following:

- *Scale*—the relationship between distance on the map and distance on the Earth
- *Projection*—the system used to transform the curved surface of the Earth to a plane
- *Coordinate system*—the method used to relate feature locations by distance and direction from other features

Until recently, maps were only available in paper (or analog) form. The development of computerized geographic information systems has enabled analog map features, relationships, and characteristics to be translated into digital form for automated display, query, and analysis. The ArcUSA database is just such a digital geographic database, one that can be used by either ArcView or ARC/INFO.

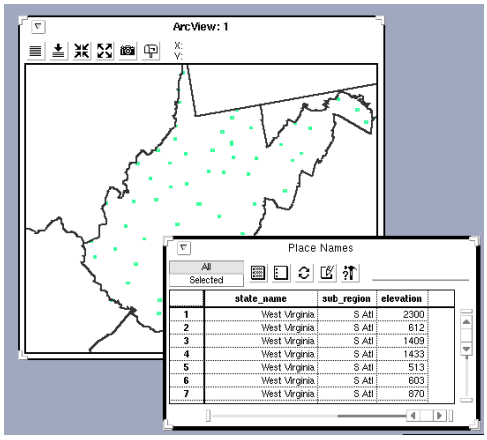
Coverages

The ArcUSA database is organized by coverage. Coverages represent the main method for vector data storage in ARC/INFO format. A *coverage* is a digital version of a single map sheet layer and generally describes one type of map feature, such as roads, counties, or lines of latitude and longitude. A coverage contains both the locational data and thematic attributes associated with map features.

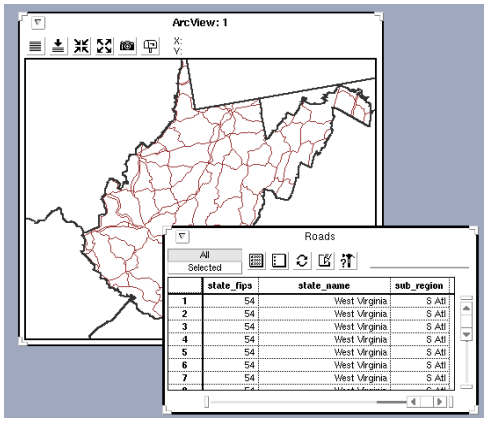
Coverage feature classes

In a coverage, map features are stored as points, lines (also known as arcs), or polygons. The three feature classes can be employed in a coverage either separately or in combination, depending on the requirements of the captured geographic data. For example, in the ArcUSA database, counties are stored in one coverage as both polygon features (areas) and line features (boundaries). (A fourth feature class, annotation, is used in ArcUSA as a special way to store the title and other characters in the Map Elements and Land/Ocean Display coverages.)

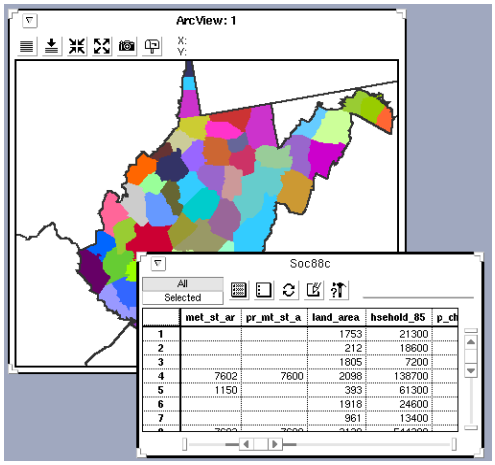
Coverage feature classes and attribute tables



Points *represent features like named places. Points have no length or area. A point is defined as a single x,y coordinate pair.*



Lines *represent linear features like roads. Lines have length but no area. A line is defined as a string of x,y coordinate pairs with beginning and ending points.*



Polygons *represent area features like counties. Polygons have area and a perimeter. A polygon is defined as a string of x,y coordinate pairs with the same beginning and ending points.*

In the ArcUSA database, coverages are given names that reflect their content, such as CTY2M (county boundary data at the 1:2,000,000 scale) and AGINC (agricultural product inventory data by county).

Two coverages, for the USGS1:24,000 Quadrangle Series Index layer and the Lake and Other Water Bodies layer, contain a very large number of features. For these layers three regional coverages are provided in addition to the coverage that contains the full extent of the database. The smaller coverages improve software performance during some operations. The extents of the northern, southern, and western regional coverages are shown on the map in Chapter 1.

Feature attribute tables

The attributes of the polygons, lines, and points in a coverage are stored in *feature attribute tables.* Each feature class in a coverage has its own table; polygon attributes are stored in *Polygon Attribute Tables* (PATs); line attributes are stored in *Arc Attribute Tables* (AATs); and point attributes are stored in *Point Attribute Tables* (PATs).

The columns in a feature attribute table represent the attributes (imagine the attribute names listed across the top of the table), and each contains information about a row or feature (imagine the features listed down the side of the table). Each entry in the table contains an attribute value for a particular record (feature).

ARC/INFO-generated attributes

ARC/INFO-generated attributes are automatically created by ARC/INFO and are different for each coverage type. The ARC/INFO-generated attributes are listed in Table 1. (Since the ArcUSA database was developed using ARC/INFO software, these attributes exist in the feature attribute tables even though they are not apparent with ArcView software.)

Several of the ARC/INFO-generated attributes, such as length, area, and perimeter, provide useful information about coverage features. They are all calculated in the units used for the coverage coordinate system (in the ArcUSA database, the Albers projection uses meters).

Table 1: ARC/INFO-generated attributes

Attributes in Point Attribute Tables	Attributes in Arc Attribute Tables	Attributes in Polygon Attribute Tables
AREA (set to "0")	FNODE#	AREA*
PERIMETER (set to "0")	TNODE#	PERIMETER*
<coverage name>#	LPOLY# (set to "0" if no polygons)	<coverage name>#
<coverage name>-ID *	RPOLY# (set to "0" if no polygons)	<coverage name>-ID *
	LENGTH *	
	<coverage name>#	
	<coverage name>-ID *	

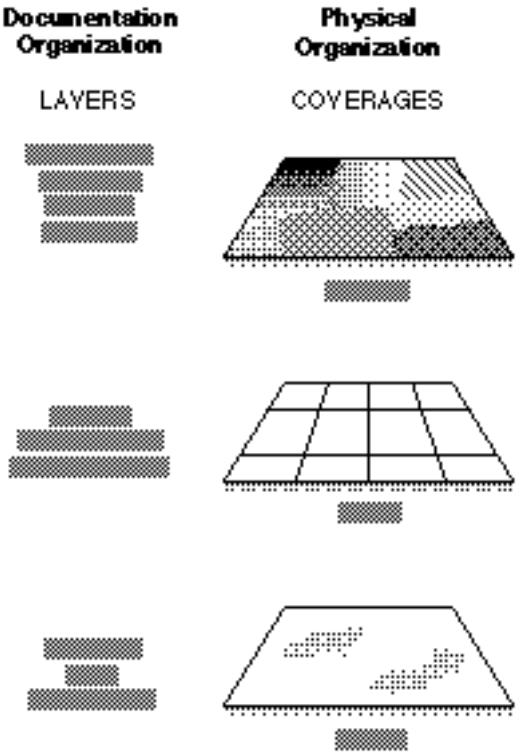
Note: Only the attributes marked with * appear in ArcView tables. The other ARC/INFO-generated attributes are physically present in the ArcUSA coverage tables but are not visible on the screen in ArcView.

Note that other ArcUSA attributes contain information similar to the ARC/INFO-generated data. In such cases, the two sets of values will be different from each other because they have been derived from a different source—not calculated from the coordinate representation of the feature. For example, in the county-level Demographic and Health Attributes layer, both AREA and LAND_AREA give a value for county land area. Yet the values are different because AREA is given in square meters (in the Albers projection) and is derived from a digitized map, while LAND_AREA is given in square miles and is derived from a Census Bureau database. Furthermore, in counties and states made up of more than one polygon, AREA contains the value for an individual polygon, while LAND_AREA contains the value for the county or state as a whole.

Coverages in the user's guide

In this user's guide, a group of coverages like the four USGS 1:24,000 Quadrangle Series Index coverages mentioned above is called a *layer*. To avoid repetition, the layer is described rather than the individual coverages. Furthermore, ArcUSA county coverages that contain statistical attributes (like AGINC) usually have a counterpart coverage that contains identical statistics for states (in this case, AGINS—agricultural product inventory data by state). Such counterpart state- and county-level coverages are also described as a single layer in this manual.

ArcUSA database organization



The ArcUSA database

The ArcUSA database includes data at two scales: 1:2,000,000 and 1:25,000,000. Data at both scales are presented in the Albers Conic Equal-Area projection. The 1:2,000,000-scale data are also presented in geographic coordinates expressed in decimal degrees, in a second set of coverages. (The two sets of 1:2M coverages have identical names, but they are delivered in different directories.) Any one coverage contains data at only one scale and in one projection/coordinate system.

Characteristics of ArcUSA 1:2M coverages

The ArcUSA 1:2M coverages contain more detail and a greater number of features and feature attributes than the 1:25M coverages. This user's guide groups the coverages containing the 1:2,000,000-scale data into cartographic, index, and statistical (state and county) layers. An overview of these three 1:2M layer groups follows.

Cartographic layers. Coverages in the cartographic layers represent common basemap information made up of a variety of man-made and natural geographic features. The bulk of the data in these coverages is locational; attributes are few, and usually they identify the location and class of the features. The ArcUSA 1:2M database includes ten cartographic layers: County Boundaries, Federal Lands, Lakes and Other Water Bodies, Land/Ocean Display, Map Elements (title and scale bar), Place Names, Railroads, Rivers and Streams, Roads, and State Boundaries.

Index layers. Coverages in the five ArcUSA 1:2M index layers contain several geographic reference grids and data indexes. The index layers are: Landsat Nominal Scene Index (for Landsat 4 and 5 satellite data), Latitude/ Longitude Grids (2-, 5-, and 10-degree intervals), and USGS Topographic Quadrangle Series Indexes (for maps at scales of 1:24,000, 1:100,000, and 1:250,000).

State and county statistical attribute layers. Coverages in the ArcUSA 1:2M state and county statistical layers contain both geographic features (which are identical to the geographic data in the state and county cartographic coverages) and a large number of attributes for state or county statistics. There are both state and county layers called the following: 1990 Census Public Law 94-171 Data (demographic data used for redistricting), Agricultural Product Inventory, Agricultural Product Market Value, Demographic and Health Attributes, Government and Financial Attributes, and Socioeconomic Attributes. There is also an Environmental Attributes coverage for counties.

Characteristics of ArcUSA 1:25M coverages

The ArcUSA 1:25M layers contain data that are generalized from the 1:2M coverages. Map features are less detailed, and there are fewer feature attributes. The 1:25M coverages complement the more detailed coverages by providing a quick overview of ArcUSA data. Because both are stored in the same coordinate system, features from 1:25M coverages and features from 1:2M coverages can be displayed together. For example, you might display 1:25M roads as a basic interstate highway map, and simultaneously display a latitude/longitude grid from a 1:2M coverage.

ArcUSA 1:25M has seven cartographic layers: Cities, County Boundaries, Land/Ocean Display, Map Elements, Rivers and Streams, Roads, and State Boundaries. There are two 1:25M statistical attribute layers, one for states and one for counties. There are no index layers at this scale.

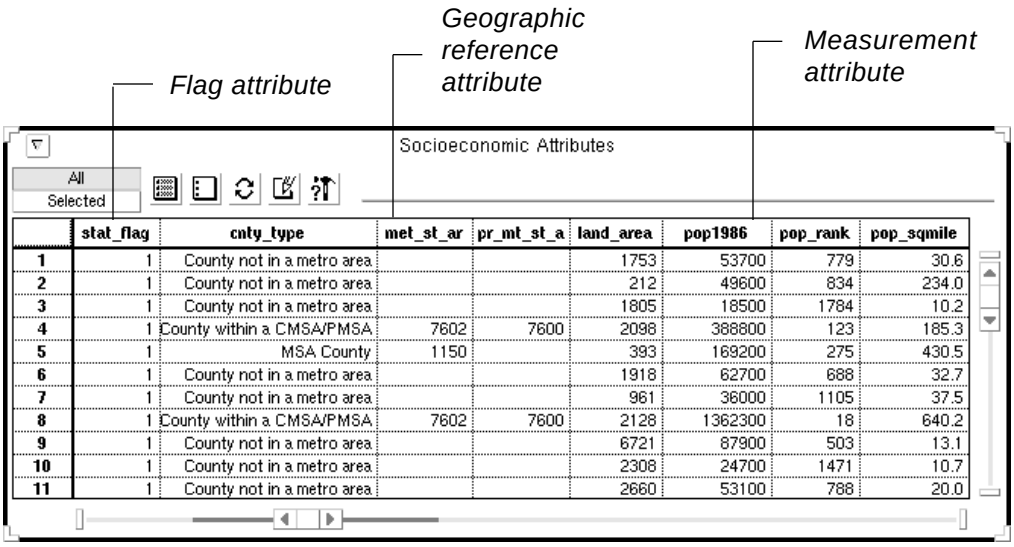
Attributes

The attributes (or items) in the ArcUSA feature attribute tables contain different types of values; specifically, measurements, codes, flags, and names. The values contained in an attribute determine the kinds of statistical operations that can be performed on the data and influence the display of the data. The four kinds of attribute values are discussed below.

Measurement attributes

Measurement attributes have numeric values that indicate a measurement, such as a number of people, cows, miles, bushels, or crimes, and not a code or designation. For example, the values in the measurement attribute PERS_HHLD (persons per household, 1985) represent the average number of people per household. Measurement values are usually continuous (such as 3,145 or 6.2 or –43.8) but may be ordinal (first, second, etc.). In the ArcUSA database, measurement attributes are most common in the statistical attribute layers.

Measurements can be expressed either as raw values or as percentages. Raw or nonstandardized attributes, such as the number of active physicians in

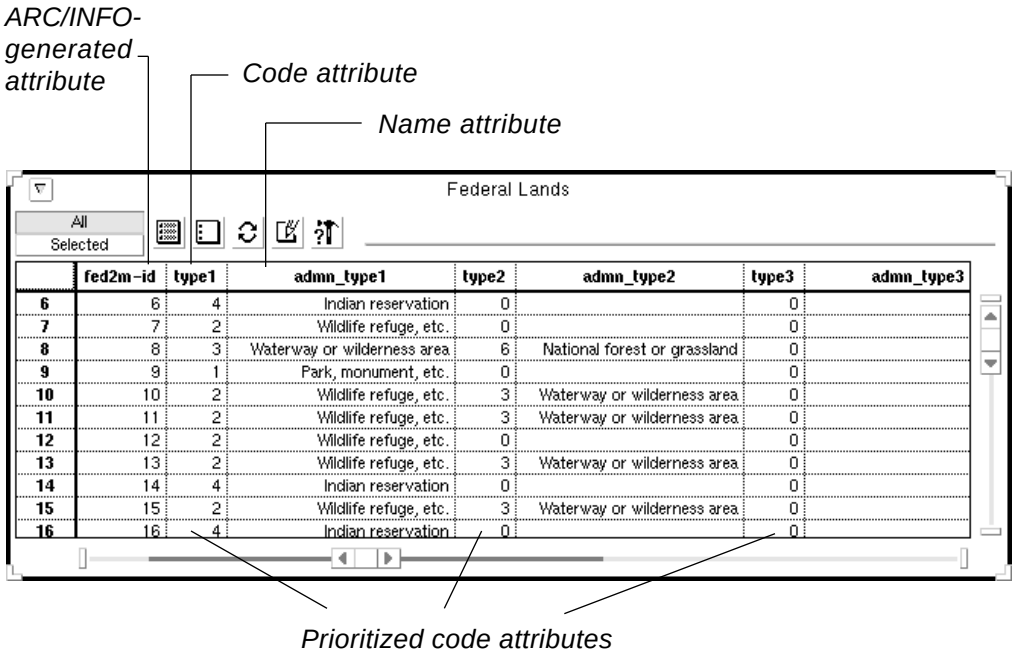


	stat_flag	cnty_type	met_st_ar	pr_mt_st_a	land_area	pop1986	pop_rank	pop_sqmile
1	1	County not in a metro area			1753	53700	779	30.6
2	1	County not in a metro area			212	49600	834	234.0
3	1	County not in a metro area			1805	18500	1784	10.2
4	1	County within a CMSA/PMSA	7602	7600	2098	388800	123	185.3
5	1	MSA County	1150		393	169200	275	430.5
6	1	County not in a metro area			1918	62700	688	32.7
7	1	County not in a metro area			961	36000	1105	37.5
8	1	County within a CMSA/PMSA	7602	7600	2128	1362300	18	640.2
9	1	County not in a metro area			6721	87900	503	13.1
10	1	County not in a metro area			2308	24700	1471	10.7
11	1	County not in a metro area			2660	53100	788	20.0

Nebraska, contain values indicating the original count or measurement. Such attributes cannot be compared across counties or states because no standard for comparison has been established. Raw values can be standardized to a unit of area or population size. For example, the number of physicians in Nebraska could be divided by the total number of people in the state, resulting in the value for the number of physicians per capita. This standardized value can then be meaningfully compared to the number of physicians per capita in other states. Many raw values in the ArcUSA statistical attribute layers have been standardized and are expressed as percentages.

Suppressed measurement values

Sometimes the measurement for a particular geographic area is missing or suppressed in the database, such as when low response to a survey makes it unreliable, or the privacy of individuals must be protected. In the four coverages containing Census of Agriculture data, missing data in any of the measurement attributes are represented by negative codes such as "–1" or "–2". To perform statistical analyses with these attributes, first select only those records that contain values greater than or equal to zero. (The codes follow the census designations for missing data, except for the negative sign.) In the six coverages containing data from the *County and City Data Book*, suppressed measurements appear as zero values. This type of zero value is explained in more detail in "Demographic and Health Attributes" in Chapter 4.



	fed2m-id	type1	admn_type1	type2	admn_type2	type3	admn_type3
6	6	4	Indian reservation	0		0	
7	7	2	Wildlife refuge, etc.	0		0	
8	8	3	Waterway or wilderness area	6	National forest or grassland	0	
9	9	1	Park, monument, etc.	0		0	
10	10	2	Wildlife refuge, etc.	3	Waterway or wilderness area	0	
11	11	2	Wildlife refuge, etc.	3	Waterway or wilderness area	0	
12	12	2	Wildlife refuge, etc.	0		0	
13	13	2	Wildlife refuge, etc.	3	Waterway or wilderness area	0	
14	14	4	Indian reservation	0		0	
15	15	2	Wildlife refuge, etc.	3	Waterway or wilderness area	0	
16	16	4	Indian reservation	0		0	

Code attributes

Code attributes have either numeric or alphabetic codes. The codes are a short form for text descriptions of groups or categories. In the ArcUSA database, code attributes are most common in the cartographic and index layers.

Numeric codes generally begin with "1" and rise sequentially. The code order may be random, in which case the codes have no inherent numeric meaning. However, the order may also reflect frequency or relative significance. For example, in the Railroads coverage, main lines are numbered "1" and "2," and branch lines are numbered "3" and "4." Features that are inadvertently created and are not the focus of the classification scheme, such as "background" polygons, are usually represented by extreme value codes, such as "9" or "99."

Alphabetic codes are used sometimes instead of numeric codes. For example, in the USGS 1:24,000 Topographic Quadrangle coverages, the MAP_EDIT attribute has the codes "G" for "Surface management status" and "H" for "Surface minerals."

Two special types of code attributes, prioritized and flag attributes, require discussion. Prioritized attributes share a common set of codes. They are useful in situations in which two or more of the codes apply to the same feature. In the Federal Lands coverage, for example, the set of prioritized attributes, TYPE1, TYPE2, and TYPE 3, utilize nine codes representing the administrative status of the feature. The codes are ordered by restrictions on use. If a feature is both a national park and a military reservation, the TYPE1 attribute is assigned to the more restrictive designation ("1" for "National park") and TYPE2 to the less restrictive one ("5" for "Military reservation"). Rankings were established by ESRI. In this example TYPE3 is blank.

Flag attributes

Flag attributes contain a code that identifies certain records, or features, in a coverage. Flags are needed in ArcUSA coverages that contain counties or states in order to generate accurate summary statistical data. This is because some counties and states, such as those that include offshore islands, are represented by multiple polygons. For measurement attributes, each separate polygon is assigned the total value for the political unit, resulting in repeated values. A summation across all records would yield inflated results. The flag value has been assigned to the largest polygon in each county and state, enabling a single record per political unit to be selected for statistical analysis or display of the county or state name.

Name attributes

Name attributes may contain either alphabetic or alphanumeric names. They serve two functions in the ArcUSA database. First, they may contain the English-language equivalents of codes. If so, the user has the option of generating an online display of attribute classes either by name or by code. For example, in the Lakes and Other Water Bodies layer, TYPE contains the codes for the different classes of water bodies, and WATER_TYPE contains the names for the different classes of water bodies.

A second function of the name attributes is to store place name information for the geographic features. For example, the attribute in the Place Names layer called "NAME" contains the names of cities, national parks, national forests, and lakes.

ArcUSA attributes

In Chapters 4 and 5, the attributes within a coverage have been grouped by topic, or theme, regardless of the type of values they contain. The thematic attribute groups provide logical organization to the sometimes long lists of coverage attributes and help the user locate data of interest in the online feature attribute tables. The most common ArcUSA thematic attribute groups are described below.

Geographic reference attributes

Geographic reference attributes allow the user to create displays that contain features located in a geographic area of interest, such as one state. Many ArcUSA layers include some geographic reference attributes, although the specific attributes vary from one layer to another. The geographic reference attributes used in the ArcUSA database are presented in Table 2.

Classification attributes

Classification attributes, which occur primarily in the cartographic layers, contain codes or names that give a typology to geographic features. For example, in the 1:2M Roads coverage, the attribute ESRI_CLASS contains codes that specify whether a particular line represents an interstate, U.S. route, state route, or other type of road. Categories in classification attributes are generally mutually exclusive, although in certain cases, such as for prioritized attributes, they may be used together.

Other attributes

The remaining attributes in ArcUSA layers are grouped by topic to assist in locating the desired information. Most of them are measurement attributes. Some attribute groups in the county-level Socioeconomic Attributes coverage are, for example, Households, Social Security, Crime, Education, Income, and Labor Force Attributes. Individual attributes in the Crime group include SERIOUS_CR (number of serious crimes, by county, in 1985), VIOLENT_CR (violent crimes), and SR_CR_100K (serious crimes per 100,000 population).

Table 2: Geographic reference attributes

Attribute Name	Description
STATE_NAME STATE_FIPS	The name of the state in which a feature is located, and the FIPS code for the state.[1]
CNTY_NAME CNTY_FIPS	The name of the county in which a feature is located, and the FIPS code for the county.[1]
FIPS	The combined state/county FIPS code.[1]
SUB_REGION	An abbreviation for the U.S. subregion in which a feature is located.[2]
MET_ST_AR	For metropolitan counties, the FIPS code for the Metropolitan Statistical Area (MSA), Consolidated Metropolitan Statistical Area (CMSA), or New England County Metropolitan Area (NECMA).[1]
PR_MT_ST_A	For applicable metropolitan counties, the FIPS code for the Primary Metropolitan Statistical Area (PMSA).[1]
L_ST_FIPS R_ST_FIPS	The FIPS codes for the states on the left and right sides of a boundary.
ST_NAMES	The names for the states (or state) on either side of a boundary.

Notes: 1. A complete listing of state, county, and metropolitan area FIPS codes can be found in Appendix C. 2. U.S. subregions are shown on the map in Chapter 1.

Naming conventions

To ensure consistency, naming conventions were adopted for ArcUSA coverages and attributes. The names are intended to reflect the topic of the two database components—features and map scale—while complying with DOS restrictions on file name length. Tables 3 and 4 present the conventions used for coverage and attribute names.

Attributes common to several different layers, such as state name, were assigned the same attribute name in all layers (STATE_NAME). Conversely, unique attributes were given names that are always unique within a layer and generally unique across different layers. One exception is attributes in the database that are generically named even though they refer to different features. For example, both the water body and railroad classification code attributes are

Table 3: Coverage naming conventions

Convention	Examples	Applied to:
Database scale 2M = 1:2,000,000 25M = 1:25,000,000	RDS**2M** RDS**25M**	Cartographic coverages in ArcUSA 1:2M and 1:25M
Level of geography S = States C = Counties	POP90**S** AGIN_**C**	State and county statistical attribute coverages in ArcUSA 1:2M and 1:25M
U.S. region N = Northern Region S = Southern Region W = Western Region	LAK2M_**N** Q_24K**S** Q_24K**W**	ArcUSA 1:2M Lakes and Other Water Bodies, and USGS 1:24,000 Quadrangle Series Index coverages
Content or source	**RIV**_25M (Rivers) **LTLG5** (Latitude/longitude grid, 5-degree intervals) **GOV88**CW (Government statistics from the 1988 *County & City Data Book*)	All coverages

Note: The coverage files which contain feature attribute tables are assigned the coverage name plus an extension for the table type (.PAT for polygons and points, .AAT for arcs). For example, the file RDS2M.AAT contains the arc attribute table for the RDS2M coverage.

Table 4: Attribute naming conventions

Convention	Examples	Applied to:
P_ = percentage	**P**_HS_GRADS (Percentage of people with 12 years of education)	All percentages, especially in state and county statistical attribute coverages
K = thousand	MARRIAG_**1K** (Number of marriages per 1,000 people)	Wherever applicable, especially in state and county statistical attribute coverages
Abbreviation	**HOSP_BEDS** (Number of hospital beds) **SICBEEF** (Number of farms falling under the Standard Industrial Code for beef farms) **TOT_Q_SQMI** (Total square miles of land area represented by a quadrangle map)	All attributes

named TYPE. Another exception applies to some of the attributes derived from the U.S. Census of Agriculture, which were given the same name in the Agricultural Product Inventory layers and the Agricultural Product Market Value layers, even though they are not identical. WHEATFARMS, for example, indicates the number of farms that *grew* wheat during the census year in the Inventory layers and the number of farms that *sold* wheat that year in the Market Value layers.

Data sources

This section reviews the sources for ArcUSA data, discusses their currency, and briefly indicates modifications or enhancements that were made to the source data for the ArcUSA database. (Appendix A describes the development of the ArcUSA database in detail, and the data sources and currency are summarized in Table 5.) The name of the reference document for each source is also noted where relevant (complete bibliographic references are listed in Appendix D). These documents should be consulted by the user for comprehensive definitions of the attributes included in this database.

The primary source for the ArcUSA geographic data was the USGS Digital Line Graphs (DLGs) at a scale of 1:2,000,000. Other geographic data were generated or compiled by ESRI, particularly the data for the index layers. U.S. Bureau of the Census digital data from the 1990 Census of Population, the 1988 *County and City Data Book*, and the 1987 Census of Agriculture were the sources for most of the statistical attributes. The Oak Ridge National Laboratory's GeoEcology database was the source for the Environmental Attributes layer.

Digital Line Graphs

The DLG is a digital map standard developed by the U.S. Geological Survey. The data are offered at six scales ranging from 1:24,000 to 1:2,000,000. The source for the 1:2,000,000-scale data (employed in the ArcUSA database) is the 1970 *National Atlas of the United States of America.* The data files contain planimetric information about boundaries, hydrography, and transportation. The DLG uses a system of major and minor codes to classify geographic features. These cumbersome codes were revised and simplified for the

Table 5: Sources and currency of ArcUSA 1:2M data

Layers	Graphic Data Source	Attribute Data Source
Cartographic Layers		
County Boundaries	USGS—DLG, 1988	USGS—DLG, 1988
Federal Lands	USGS—DLG, 1980	USGS—DLG, 1980
Lakes and Other Water Bodies	USGS—DLG, 1980	USGS—DLG, 1988
Land/Ocean Display	ESRI—ArcWorld, 1992	ESRI—ArcWorld, 1992
Place Names	USGS—Concise Digital Database, 1973	USGS—Concise Digital Database, 1973
Railroads	USGS—DLG, 1979	USGS—DLG, 1979
Rivers and Streams	USGS—DLG, 1973	USGS—DLG, 1973
Roads	USGS—DLG, 1980	USGS—DLG, 1980
State Boundaries	USGS—DLG, 1973	USGS—DLG, 1973
Index Layers		
Landsat Nominal Scene Index	EOSAT algorithm, 1992	EOSAT algorithm, 1992
Latitude/Longitude Grids	ESRI, 1992	ESRI, 1992
USGS Topographic Map Indexes: 1:24K, 1:100K, 1:250K	ESRI algorithm, 1992	USGS—Topographic Names Database; Published Map Sheet Data File (T-70); various published indexes, 1986
Statistical Layers		
U.S. Census, P-L 94-171	USGS—DLG, 1988	U.S. Census, 1990
Agricultural Product Inventory	USGS—DLG, 1988	U.S. Census of Agriculture, 1987
Agricultural Product Market Value	USGS—DLG, 1988	U.S. Census of Agriculture, 1987
Demographic & Health Attributes	USGS—DLG, 1988	*County and City Data Book*, 1988
Environmental Attributes	USGS—DLG, 1988	GeoEcology, 1967–1979
Government & Financial Attributes	USGS—DLG, 1988	*County and City Data Book*, 1988
Socioeconomic Attributes	USGS—DLG, 1988	*County and City Data Book*, 1988

ArcUSA database. The reference work for the DLG data source is *Digital Line Graphs from 1:2,000,000-Scale Maps: Data Users Guide 3*, U.S. Geological Survey, Reston, Va., 1990.

The DLG data are the basis for features and attributes in the following ArcUSA 1:2M cartographic coverages: County Boundaries, Federal Lands, Lakes and Other Water Bodies, Railroads, Rivers and Streams, Roads, and State Boundaries. The DLG data are also the basis for the state and county features in all the statistical coverages. The DLG data employed in the ArcUSA database range in currency; the data for some of the coverages are as recent as 1988, but date back to 1980.

Concise Digital Database

The Concise Digital Database is a digital compendium of U.S. place names developed in 1973 in conjunction with the DLG. The translation to digital form was made by the USGS's Geographic Names Information System (GNIS). The Concise Digital Database references each place name through latitude/longitude coordinates.

The Concise Digital Database was the source for the Place Names and Cities cartographic layers. The latitude/longitude coordinates were used to generate the point feature coverage. Some of the Concise Digital Database attributes, such as the elevation attribute, were also retained.

Other USGS data

The USGS Topographic Names Database and the Published Map Sheet Data File (also known as the T-70 file) were the two primary digital sources for the attributes in the USGS Quadrangle Series index coverages. Where these database were incomplete, various published USGS map indexes were consulted to update the attributes. Further explanatory information about USGS quadrangles can be found in the *Catalog of Topographic and Other Published Maps,* and the *Index to Topographic and Other Map Coverage,* U.S. Geological Survey, Reston, Va. These USGS companion publications are available for every state.

Landsat nominal scene indexes

The Landsat satellites are operated by the Earth Observation Satellite Company (EOSAT). EOSAT provided ESRI with an algorithm for generating two types

of index information for Landsat 4 and 5 scenes: nominal scene center points and nominal scene footprints. ("Nominal" indicates that the center points and footprints represent an average, not an absolute, geographic location. The center points and footprints are averaged because the orientation of the satellite varies slightly from one orbit to the next.) Nominal scene center points were calculated first; then scene footprints were mathematically generated with the center points as the focus. The footprints are rectangular outlines whose exact dimensions vary with satellite orientation. In the ArcUSA database, these data are the basis for the Landsat Nominal Scene Index coverages.

U.S. Census of Population and Housing, 1990

The U.S. Census of Population and Housing is a compilation of statistical data on population and housing that is developed every ten years by the U.S. Bureau of the Census. The data are tabular and available in digital form. The ArcUSA database employs a subset of the 1990 Census known as Public Law 94-171 data. These data support congressional and legislative redistricting and are the first data to be released from the new census. The ArcUSA 1990 Census, Public Law 91-171 Data layers contain these data for states and counties. The reference document for this data source is *Public Law 94-171,* U.S. Bureau of the Census, Washington, D.C., 1991.

U.S. Census of Agriculture, 1987

The U.S. Census of Agriculture is a statistical report developed at fixed intervals by the U.S. Bureau of the Census. The census provides summary statistical information for all farms with sales of $1,000 or more. The data are presented in more than fifty tables and are available in digital form. Only a subset of these data are included in the ArcUSA database: the Agricultural Product Inventory layers contain state and county attributes from Table 1 of the census, and the Agricultural Product Market Value layers contain attributes from Table 2. The reference document for this data source is *Census of Agriculture, 1987 on CD-ROM,* U.S. Bureau of the Census, Data User Services Division, Washington, D.C., 1990.

County and City Data Book, 1988

The *County and City Data Books* are interim (that is, non-census-year) statistical products developed by the U.S. Bureau of the Census. They provide data for states, counties, cities of 25,000 or more residents, and places with 2,500 or more residents. The data are tabular and available in digital form. The

ArcUSA database employs state and county data from the 1988 *County and City Data Book*, which contains statistics that vary in currency from 1979 to 1986. These data are the basis for the attributes in three groups of ArcUSA coverages: Demographic and Health Attributes, Government and Financial Attributes, and Socioeconomic Attributes. The reference work for this data source is the *County and City Data Book, 1988: Files on CD-ROM Technical Documentation*, U.S. Bureau of the Census, Data Access and Use Staff, Data User Services Division, Washington, D.C., 1989.

GeoEcology Database

The GeoEcology Database is a tabular digital database developed by the Oak Ridge National Laboratory for the U.S. Department of Energy. The database contains environmental data for the counties of the coterminous United States. The GeoEcology database included research efforts spanning extended geographic areas and addressing the long-term impact of human activity on ecosystems in general. The currency of the data varies; the most recent entries range from 1979. The ArcUSA Environmental Attributes coverage employs a small subset of the GeoEcology data. The reference work for this data source is *GeoEcology: A County-Level Environmental Data Base for the Conterminous United States*, R. J. Olson, C. J. Emerson, and M. K. Nungesser, Oak Ridge National Laboratory, Oak Ridge, Tenn., 1980.

ESRI in-house development

Several ArcUSA coverages do not have a specific source, but were developed for the database by ESRI. For example, the 1:2,000,000-scale grids for the three USGS topographic quadrangle indexes were mathematically generated by ESRI; then the attribute information from USGS sources mentioned above was added. Geographic and attribute data for the Latitude/Longitude Grids coverages were also developed by ESRI. The Land/Ocean Display coverages, which extend the U.S. ocean shorelines into Canada and Mexico, were created from another ESRI product, the ArcWorld database. Special ArcUSA map titles and scale bars were created for the Map Elements coverages.

Coordinate systems

The ArcUSA database is available in projections that promote usability as both stand-alone data and in conjunction with other data sets. ARC/INFO users will

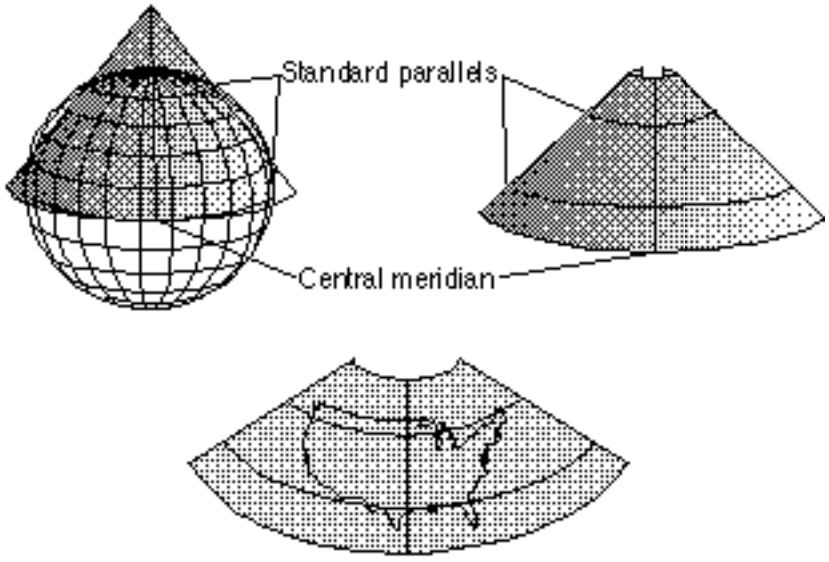
be able to convert the database to other projections. The ArcUSA 1:2M and 1:25M databases also feature a specified coordinate precision.

Projection systems

The ArcUSA database employs the Albers Conic Equal-Area projection at both the 1:2M and 1:25M scales. This conic projection is implemented with standard parallels at 29.5° and 45.5° North latitude. With this projection, equal area is preserved, but shape is somewhat distorted. In general, the shape of the regions between the two standard parallels becomes expanded and the shape of those beyond becomes compressed. The coordinate units employed in conjunction with the Albers Conic Equal-Area projection are meters. The point of origin is 96°00' W and 23°00' N.

The ArcUSA 1:2M database is also delivered in decimal degrees. Storage in geographic coordinates facilitates use with other data, which are commonly supplied in decimal degrees, and enables conversion into the projection of choice for update or analysis. The units of measure used with the decimal degrees are spherical latitude/longitude coordinates. For example, the latitude/longitude coordinate of 37°30'15" is expressed as 37.50417.

Albers Conic Equal-Area projection with two standard parallels



Datums

The horizontal datum used is the North American Datum of 1927 (NAD1927), and the vertical datum used is the National Geodetic Vertical Datum of 1929 (NGVD 1929). The vertical datum applies only to the Place Names layer that contains elevation information.

Coordinate precision

Coordinate precision refers to the maximum number of digits allocated within a data file for the storage of an x, y, or z coordinate value. Single-precision maps store as many as seven significant digits for each coordinate. All ArcUSA data are in single precision. This means that any x,y coordinate in the ArcUSA database has a locational accuracy at least to the nearest meter.

Projection conversion capability

ARC/INFO users can employ the PROJECT command to convert the ArcUSA data into other projections. A coordinate system definition file (PRJ) is included for each ArcUSA coverage and can be used in ARC/INFO for map projection conversions. This option is not available to ArcView users.

Chapter 4

In greater detail: The ArcUSA 1:2M layers

This chapter describes the individual coverages in the ArcUSA 1:2M database. To avoid repetition, all coverages that belong to the same layer are described together, since coverages in the same layer have the same feature and attribute definitions. As outlined in Chapter 3, the layer descriptions are presented in three major groups (cartographic, index, and statistical attribute). Within each group, the layers are listed in alphabetical order.

The description of each layer begins with a discussion of the map features and attributes in that layer. The discussion continues with information about the use of the coverages in that layer. Then a tabular summary of the layer is given. The table lists the individual coverage names, coverage feature classes, map feature counts (for the full U.S. coverage), and the number of database attributes associated with each feature class. The last part of the layer description, usually the longest, defines the individual attributes that appear in the coverage feature attribute tables, and the coding schemes associated with the attributes.

The summary tables for ArcUSA 1:2M layers may list four coverage names for each layer. These coverage names correspond to the full U.S. coverage and each of the three U.S. regional coverages.

The standard ARC/INFO-generated attributes described in Chapter 3 do not appear, nor are they included in the attribute count in the layer summary tables.

The layer descriptions do include geographic reference attributes, because the list of those attributes differs slightly from one layer to the next (the geographic reference attributes are described more thoroughly in Chapter 3).

Detailed attribute field definitions for both dBASE and INFO formats are given for each layer in Appendix B.

ArcUSA 1:2M cartographic layers

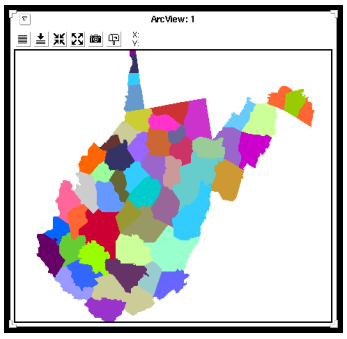
The coverages in the cartographic layers contain geographic features like roads, rivers, boundaries, and place names, which provide a general location context for the data in other layers. The features in these coverages represent those that are often placed on maps to orient the user. The cartographic coverages have few attributes other than those used for classification and geographic reference. The county and state boundary coverages described in this section are identical to those used as the cartographic foundation for the state and county statistical attribute coverages described later.

The ArcUSA 1:2M cartographic layers and coverages are listed in the table below.

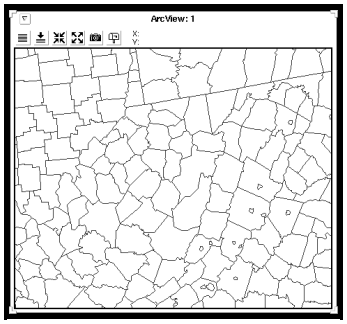
Layer	Coverage Names
County Boundaries*	CTY2M
Federal Lands	FED2M
Lakes and Other Water Bodies	LAK2M, LAK2M_N, LAK2M_S, LAK2M_W
Land/Ocean Display*	LAND2M
Map Elements	SC_2M
Place Names	NAM2M
Railroads	RR2M
Rivers and Streams*	RIV2M
Roads*	RDS2M
State Boundaries*	ST2M

* Generalized versions of these layers are provided with ArcUSA 1:25M. If you do not need the detail of the 1:2M coverage, substituting a generalized coverage will minimize display time.

County Boundaries



Polygons



Lines

Layer description

The County Boundaries layer serves as a county base map for the coterminous United States. Two new counties for Arizona and New Mexico, as well as several independent cities, primarily in Virginia, were added by ESRI to the DLG source data. These additions brought the currency of the layer from 1973 to 1988. More than 3,100 substate political units are represented.

A line attribute classifies boundaries as shorelines or as county, state, or international boundaries. Attributes that permit states or counties to be selected for display are contained in both the line and polygon attribute tables.

Using the County Boundaries coverage

Some counties, such as those that include offshore islands, are represented by multiple polygons. A flag attribute is provided so that the largest polygon can be used to represent the county for choroplethic mapping or text labeling. The county name attribute can be used to provide the text for labeling the polygons in a base map.

Summary of the County Boundaries coverage

		dBASE	UNIX
Coverage name and size (MB):	CTY2M	5.37	4.78

Source and currency: USGS DLG, 1988

Thematic attribute groups: Geographic reference attributes (polygons and lines)
Statistical flag (polygons)
Classification attributes (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Counties and independent cities	3,111 features represented by 4,409 polygons	7
Lines	County and independent city boundaries	Represented by 7,504 lines	4
	State boundaries	Represented by 1,204 lines	
	International boundaries	Represented by 68 lines	
	Shorelines	Represented by 1,709 lines	
	All line features	Represented by 10,485 lines	

Polygon attributes

Geographic reference attributes

STATE_FIPS
CNTY_FIPS
FIPS
STATE_NAME
CNTY_NAME
SUB_REGION

The state, county, and combined state/county FIPS codes, as well as the state name and U.S. subregion, can be used to select particular county polygons for display or study. The U.S. subregions are shown on the map on page 1-2.

Statistical flag

STAT_FLAG — Flag to identify a unique polygon for each county. The codes are as follows:

Codes		Definitions
0	=	Other polygon
1	=	Largest polygon

Line attributes

Geographic reference attributes

L_ST_FIPS
R_ST_FIPS — The FIPS codes of the states on either the left or right side of a boundary are contained in these attributes. For county boundaries inside a state, the left and right FIPS codes are the same. For state boundaries, the left and right FIPS codes are different. The left and right sides of a boundary are defined by the direction in which that line segment was digitized, so both attributes must be checked when querying for the boundaries of a particular state.

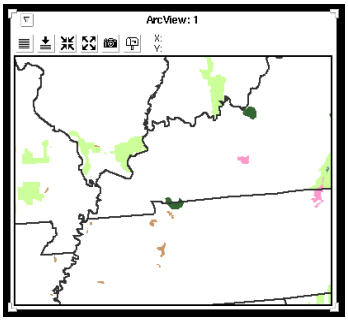
ST_NAMES — This attribute contains the names of states adjacent to a boundary. Two states are listed for state boundaries (e.g., "Wisconsin/Minnesota"). Only one state is identified for county and international boundaries and shorelines.

Classification attribute

BNDY_TYPE — Each line is classified according to boundary type. This attribute allows you to choose different symbols for political boundaries and coastlines. Wherever boundaries are coincident, rank is assigned beginning with coastlines in the reverse order of the list below. Thus, a county boundary that is also a state and international boundary will only be coded as "3" for international boundary. The codes are as follows:

Codes		Definitions
1	=	County boundary
2	=	State boundary
3	=	International boundary
4	=	Coastline

Federal Lands



Polygons

Layer description

The Federal Lands layer delimits those land areas that are administered by the federal government. These include national parks, monuments, and recreation areas; national wildlife refuges; scenic waterways and wilderness areas; national forests and grasslands; Indian reservations; and military reservations. Each area contains three different attributes to describe its administrative relationships.

Using the Federal Lands coverage

Some types of federal land areas are "nested" within others. For example, a scenic waterway may be located within a wilderness area that is also part of a national forest. These nested land areas may be administered by different government agencies. Each land area classification has been prioritized according to restrictions on use. The areas with the most stringent restrictions on use (like scenic waterways) were assigned the highest priority; the areas with the fewest restrictions on use (like national forests) were assigned the lowest priority. The names of national parks and forests are included in the Place Names layer.

Summary of the Federal Lands coverage

		dBASE	UNIX
Coverage name and size (MB):	FED2M	2.24	2.33

Source and currency: USGS DLG, 1980

Thematic attribute groups: Classification attributes (polygons)
Geographic reference attributes (polygons)

Feature class	Feature	Number of features	Number of attributes
Polygons	National parks, etc.	Represented by 630 polygons	9
	National wildlife refuges, etc.	Represented by 640 polygons	
	National scenic waterways, etc.	Represented by 139 polygons	
	Indian reservations	Represented by 381 polygons	
	Military reservations	Represented by 168 polygons	
	National forests and grasslands	Represented by 619 polygons	
	Not a federal land area	Represented by 174 polygons	
	All polygon features	Represented by 2,741 polygons	

Polygon attributes

Classification attributes

TYPE1
TYPE2
TYPE3

These three attributes contain codes representing the administrative type of the land area. Every land area is assigned at least a TYPE1 code. If a land area is "nested" within the limits of one or two other federal land areas, the

additional codes are stored in TYPE2 and TYPE3. Codes are prioritized from most restrictions on use (beginning with TYPE1) to fewest restrictions on use. Thus, if an area is both a national park and an Indian reservation, TYPE1 contains "1," TYPE2 contains "4," and TYPE3 contains a blank. The classification order is given below:

Codes		Definitions
1	=	National park, monument, lakeshore, parkway, battlefield, or recreation area
2	=	National wildlife refuge, game preserve, or fish hatchery
3	=	National scenic waterway or wilderness area
4	=	Indian reservation
5	=	Military reservation
6	=	National forest or grassland
9	=	Not a federal land area

ADMN_TYPE1
ADMN_TYPE2
ADMN_TYPE3

These three attributes contain the abbreviated English equivalents of the classifications defined above. They are as follows:

- Parks, monuments, etc.
- Wildlife refuges, etc.
- Waterways and wilderness areas
- Indian reservation
- Military reservation
- National forest or grassland
- Not a federal land area

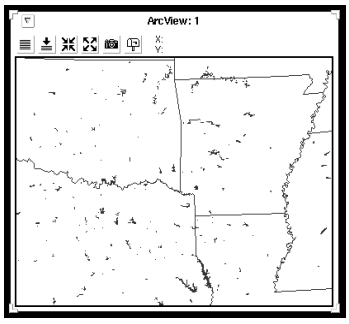
Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

These attributes, which can be used for spatial selection, store the state FIPS code, state name, and U.S. subregion in which the federal land area is located.

A federal land area that is located in more than one state is represented by multiple polygons, each of which is assigned the appropriate state and subregional geographic reference information. For example, Yellowstone National Park is represented by three polygons, one each in Wyoming, Idaho, and Montana.

Lakes and Other Water Bodies



Polygons

Layer description

The Lakes and Other Water Bodies layer contains more than 6,000 water body and island polygon features for the coterminous United States. This number includes perennial lakes, perennial reservoirs, intermittent lakes, intermittent reservoirs, dry lakes, marshes, glaciers, and snowfields. Islands within any of these water bodies are also included.

Using the Lakes coverages

In some complex hydrologic situations, different types of water bodies may be located completely within others. For example, a perennial lake may be within a larger intermittent lake, or a marsh may contain an island that in turn contains a perennial pond. To clarify these displays, use areas instead of lines to display water bodies and use different colors for different classes.

Background polygons are present in the full U.S. and northern region coverages. You can prevent them from appearing in a display, if you wish, by selecting only polygons with codes less than 9 (9 is defined as "not a water body").

Names for selected lakes and reservoirs are contained in the Place Names layer. The Great Lakes, which are outside the extent of ArcUSA, can be displayed using the Land/Ocean Display layer.

Summary of Lakes and Other Water Bodies coverages

		dBASE	UNIX
Coverage names and sizes (MB):	LAK2M	3.97	3.93
	LAK2M_N	1.78	1.81
	LAK2M_S	1.30	1.35
	LAK2M_W	0.92	0.95

Source and currency: USGS DLG, 1980

Thematic attribute groups: Classification attributes
Geographic reference attributes

Feature class	Feature	Number of features (full U.S.)	Number of attributes
Polygons	Perennial lakes	Represented by 4,429 polygons	5
	Marshes	Represented by 44 polygons	
	Intermittent lakes	Represented by 216 polygons	
	Dry lakes	Represented by 132 polygons	
	Reservoirs	Represented by 970 polygons	
	Intermittent reservoirs	Represented by 4 polygons	
	Glaciers and snowfields	Represented by 35 polygons	
	Islands	Represented by 527 polygons	
	Background polygons	Represented by 8 polygons	
	All polygon features	Represented by 6,365 polygons	

Polygon attributes

Classification attributes

TYPE
WATER_TYPE

Each polygon is classified according to the following list of categories. TYPE contains the code number, and WATER_TYPE contains the English description.

Codes		Equivalents
1	=	Perennial lake or pond
2	=	Marsh
3	=	Intermittent lake or pond
4	=	Dry lake or pond
5	=	Reservoir
6	=	Intermittent reservoir
7	=	Glacier or snowfield
8	=	Island
9	=	Not a water body (background polygon)

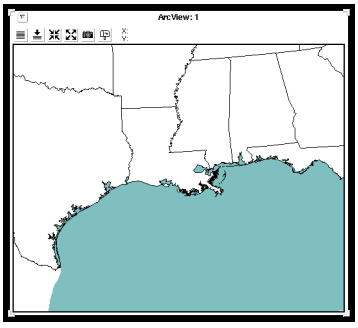
Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

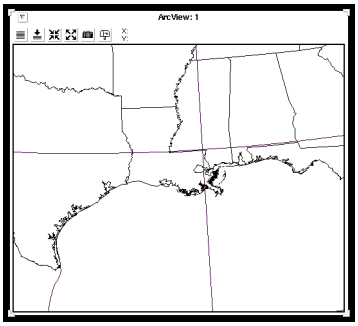
These attributes, which can be used for feature selection, store the state FIPS code, state name, and U.S. subregion in which the water body is located.

A water body located in more than one state is represented by multiple polygons, each of which is assigned the appropriate state and subregional geographic reference information.

Land/Ocean Display



Polygons



Lines

Layer description

Land and water areas beyond the extent of the other ArcUSA cartographic layers are contained in the Land/Ocean Display layer. Canada, Mexico, the Atlantic and Pacific oceans, and each of the Great Lakes can be displayed and labeled to create a finished-looking map.

Using the Land/Ocean Display coverage

The purpose of this coverage is to provide an attractive cartographic treatment between the data content area and the edge of the display window. For example, a continuous background can be displayed by using solid colors for the polygons in this layer, such as blue for water and beige for land.

A U.S. coastline display using the State Boundaries or County Boundaries coverages can be continued into Canada and Mexico with the line features in this layer. (The "processing grid" can be omitted from the display if you select only the feature lines.)

The annotation features associated with this layer include the names of major countries and water bodies. The annotation for this layer looks best for displays that show the full extent of the database, so the names are entirely visible. The annotation is suited for a detailed display of the Great Lakes region, however, because the annotation text for those features is relatively small.

Summary of the Land/Ocean Display coverage

		dBASE	UNIX
Coverage name and size (MB):	LAND2M	1.53	1.47

Source and currency: ESRI ArcWorld, 1992

Thematic attribute groups: Classification attributes (polygons and lines)

Annotation text: Mexico, Canada, Atlantic Ocean, Lake Superior, Lake Michigan, Gulf of Mexico, Gulf of California, etc.

Feature class	Feature	Number of features	Number of attributes
Polygons	Land	Represented by 1,431 polygons	1
	Water	Represented by 40 polygons	
Lines	Artificial grid lines	Represented by 103 lines	1
	Feature boundaries	Represented by 1,757 lines	

Polygon attributes

Classification attribute

LND_WAT

Each polygon is classified as either land or water (ocean and the Great Lakes), as follows:

- Land
- Water

Line attributes

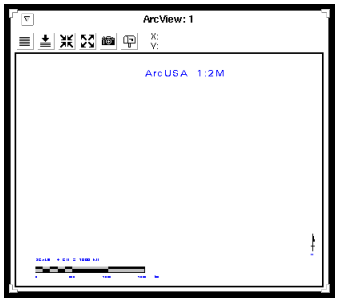
Classification attribute

BND_GRID

Each line segment is classified as either a feature boundary (shorelines and international boundaries) or an artificial grid line (a data processing line that divides the data into geographic sections). The codes are as follows:

Codes		Definitions
0	=	Artificial grid line
1	=	Feature boundary or outer coverage extent line

Map Elements



Polygons and Lines

Layer description

The Map Elements layer contains a scale bar, North arrow, and a title that can be used to make your display look like a finished map.

Using the Map Elements coverage

Polygon attributes include codes for the scale bar and the head of the North arrow so that they may be filled with color. Annotation features provide the title and characters associated with the other map elements.

The scale is given in kilometers, since the Albers Conic Equal-Area projection uses meters. Because the scale bar is in a predetermined location that cannot be changed, it is best suited to maps that display the full extent of the database.

Summary of the Map Elements coverage

		dBASE	UNIX
Coverage name and size (MB):	SC_2M	0.02	0.03

Source and currency: ESRI, 1992

Thematic attribute groups: Classification attributes (polygons)

Annotation text: Map title, scale, and North arrow

Feature class	Feature	Number of features	Number of attributes
Polygons	All polygon features	Represented by 15 polygons	1
Lines	All line features	Represented by 43 lines	0

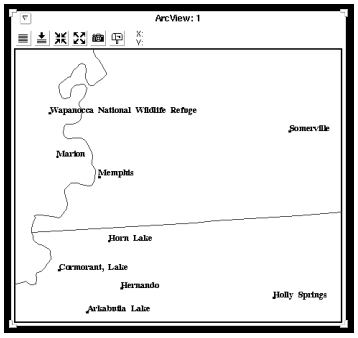
Polygon attributes

Classification attribute

FILL The scale bar is designed so it can be filled with alternating colors. The arrowhead on the North arrow also can be filled. The codes are as follows:

Codes		Definitions
1	=	First color (scale bar)
2	=	Second color (scale bar and North arrow)

Place Names



Points

Layer description

Point features representing major cities, state capitals, county seats, national forests, national parks, lakes, and reservoirs are contained in the Place Names layer. The point attributes include the type and name of each feature. The elevation of some features is also given.

Using the Place Names coverage

The locations of the points in this coverage were taken from latitude/longitude coordinates listed in the digital version of the National Atlas Gazetteer. As is common for gazetteers, the geographic coordinates were rounded, so their positions may reflect some error.

Only one point has been coded for every unique place in this layer, even though the feature itself may be an area that falls into more than one state. For example, Lake Tahoe is divided between California and Nevada, and it is represented as two polygons in the Lakes layer. In the Place Names layer, however, only a single point represents Lake Tahoe. Since the point location lies in California, California is given as the state of geographic reference.

Cities in this layer are coded as to whether they are major U.S. cities, state capitals, and/or county seats. Cities can be selectively displayed and symbolized for different purposes.

The point features and their place names are useful as general geographic identifiers, especially for small-scale maps. They can also be used to label the equivalent area features in other layers. The national parks and forests named in this layer correspond to the national parks and forests

Summary of the Place Names coverage

		dBASE	UNIX
Coverage name and size (MB):	NAM2M	1.05	0.96

Source and currency: USGS Concise Digital Database, approximately 1973

Thematic attribute groups: Classification attributes
Geographic reference attributes
Elevation

Feature class	Feature	Number of features	Number of attributes
Points	Cities	Represented by 3,096 points	10
	National forests	Represented by 174 points	
	National parks	Represented by 492 points	
	Lakes	Represented by 513 points	
	Reservoirs	Represented by 787 points	
	All point features	Represented by 5,062 points	

represented as areas in the Federal Lands layer. The lakes and reservoirs named here are represented as polygons in the Lakes and Other Water Bodies layer.

Point attributes

Classification attributes

NAME This attribute stores the name of the populated place or named area feature that corresponds to a point location.

FEAT_TYPE — The name of the feature. The five feature types available in this layer are as follows:

Names		Definitions
City	=	City or other populated place
Forest	=	National forest
Park	=	National park
Lake	=	Lake
Reservoir	=	Reservoir

MAJ_CITY — This attribute contains codes that identify the seventy-four most populous cities in the coterminous United States.

Codes		Definitions
0	=	Not a major city
1	=	A major city

CAPITAL — This attribute contains codes that identify the capital cities of the forty-eight states in the database, plus the national capital.

Codes		Definitions
0	=	Not a capital
1	=	A state capital
2	=	The national capital (Washington, D.C.)

CTY_SEAT — This attribute contains codes that identify which of the major cities and state capital cities are also county seats. There are ninety-six county seats in this coverage.

Codes		Definitions
0	=	Not a county seat
1	=	A county seat

Elevation

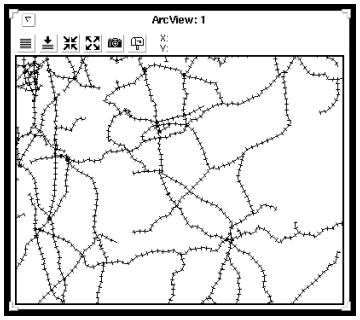
ELEVATION — A feature's elevation with respect to sea level, expressed in feet, is listed for some features.

Geographic reference attributes

CNTY_NAME
STATE_FIPS
STATE_NAME
SUB_REGION

The name of the county, state, and U.S. subregion in which the point feature is located are provided in these attributes. The state FIPS code is also given.

Railroads



Lines

Layer description

Railroad lines are represented in this layer. They are identified as main or branch lines based on U.S. Department of Transportation definitions, and are classified based on the annual volume of traffic they bear. Other railroad lines, such as sidings and railroad ferries, are also identified.

Using the Railroads coverage

The general decline of the U.S. railroad industry has resulted in significant reduction in rail line usage since the National Atlas was prepared in 1973. The features in this coverage are those represented in the DLG database.

Summary of the Railroads coverage

		dBASE	UNIX
Coverage name and size (MB):	RR2M	4.94	4.37

Source and currency: USGS DLG, 1979

Thematic attribute groups: Classification attributes
Geographic reference attributes

Feature class	Feature	Number of features	Number of attributes
Lines	Main lines, heavy use	Represented by 3,445 lines	5
	Main lines, light use	Represented by 3,931 lines	
	Branch lines, heavy use	Represented by 2,149 lines	
	Branch lines, light use	Represented by 2,763 lines	
	Other railroad	Represented by 883 lines	
	Railroad ferry	Represented by 11 lines	
	All line features	Represented by 12,182 lines	

Line attributes

Classification attributes

TYPE
RAIL_TYPE

The railroad lines are classified according to volume of traffic, measured in tons. The code number is stored in TYPE, and the English equivalent is stored in RAIL_TYPE. The codes are as follows:

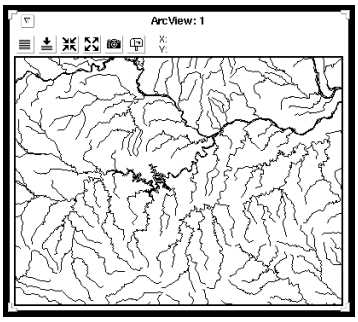
Codes	Equivalents
1=	Main line bearing more than 20 tons annually
2=	Main line bearing less than 20 tons annually
3=	Branch line bearing more than 1 but less than 5 tons annually
4=	Branch line bearing less than 1 ton annually
5=	Other railroad
6=	Railroad ferry

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

Railroads can be selected by the state name, state FIPS code, and U.S. subregion in which they are located.

Rivers and Streams



Lines

Layer description

The Rivers and Streams layer contains perennial and intermittent rivers, braided rivers, canals, ditches, and stream centerlines.

Using the Rivers and Streams coverage

The ArcUSA database uses a simpler coding scheme for rivers than the original DLG codes. In the simpler system, codes are prioritized and only one code is assigned to each river segment. Elimination of river length in the DLG classifications also helped to simplify the scheme. In these coverages, river length is contained in the ARC/INFO-generated attribute, LENGTH. (More information about ARC/INFO-generated attributes is given in Chapter 3.)

A number of spatial interactions are possible between rivers and political boundaries. For example, a political boundary may follow a river course precisely, follow a historical river course, or follow one shoreline. For this reason, if you are displaying a political unit, such as a state, the rivers along the political boundary may appear to lack continuity. A more detailed discussion of coincident rivers and political boundaries is given in Chapter 5.

The Rivers and Streams layer and the Lakes and Water Bodies layer can be displayed either individually or in combination. When rivers are displayed alone, the centerlines through the water bodies can be displayed to form a complete drainage network.

Summary of the Rivers and Streams coverage

		dBASE	UNIX
Coverage name and size (MB):	RIV2M	16.48	14.50

Source and currency: USGS DLG, 1973

Thematic attribute groups: Classification attributes
Geographic reference attributes

Feature class	Feature	Number of features	Number of attributes
Lines	River shorelines	Represented by 2,361 lines	5
	River centerlines	Represented by 3,253 lines	
	Perennial rivers	Represented by 23,456 lines	
	Intermittent rivers	Represented by 3,541 lines	
	Centerlines of perennial rivers through water bodies	Represented by 3,893 lines	
	Centerlines of intermittent rivers through water bodies	Represented by 46 lines	
	Braided rivers	Represented by 1,325 lines	
	Navigable canals	Represented by 304 lines	
	Other canals	Represented by 350 lines	
	Ditches	Represented by 205 lines	
	All line features	Represented by 38,734 lines	

The Rivers and Streams layer and the Lakes and Water Bodies layer are fully consistent with one another. A river centerline through a water body has an associated water body polygon, and the endpoints of the river centerline terminate at the boundary of the water body polygon.

At the original scale of 1:2,000,000, some rivers are wide enough to be represented by two shorelines. Such shorelines are coded "1." In addition, an artificial centerline was digitized between the two shorelines (code = 2). This centerline may be used to represent the river at smaller scales.

Line attributes

Classification attributes

TYPE
RIVER_TYPE

The class number of the river or stream segment is stored in TYPE; its English equivalent is stored in RIVER_TYPE. The codes are as follows:

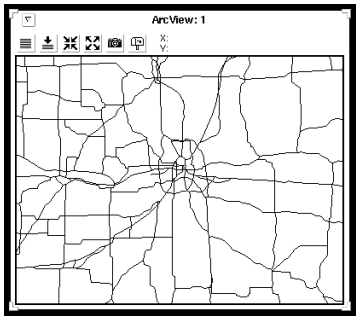
Codes		Equivalents
1	=	River shoreline
2	=	River centerline
3	=	Perennial river or stream
4	=	Intermittent river or stream
5	=	Centerline of perennial stream through a water body
6	=	Centerline of intermittent stream through a water body
7	=	Braided river or stream
8	=	Navigable canal
9	=	Other canal
10	=	Ditch

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

Rivers can be selected by the state name, state FIPS code, or U.S. subregion in which that part of the river or stream is located.

Roads



Lines

Layer description

The Roads layer contains roads and highways. Two classifications of road type are available. (Interstates, U.S. highways and state highways, toll roads, and improved roads are examples of road types.) Route numbers are also included.

Using the Roads coverage

This coverage contains attributes with the original twenty-seven DLG road classes (DLG_CLASS) as well as a simplified ten-class coding scheme (ESRI_CLASS). The simplified classification scheme is particularly useful for small-scale displays, or for regional displays where only a few road types are required. The more detailed road classes can be useful for more detailed displays of local areas, especially for transportation applications.

Summary of the Roads coverage

		dBASE	UNIX
Coverage name and size (MB):	RDS2M	15.81	14.31

Source and currency: USGS DLG, 1980

Thematic attribute groups: Classification attributes
Geographic reference attributes

Feature class	Feature	Number of features	Number of attributes
Lines	Interstate highways	Represented by 5,406 lines	22
	Limited access/divided highways	Represented by 1,153 lines	
	Other U.S. highways	Represented by 6,720 lines	
	Other state primary highways	Represented by 2,066 lines	
	State secondary highways	Represented by 4,960 lines	
	Improved roads	Represented by 911 lines	
	Unimproved roads	Represented by 27 lines	
	Parallel highways	Represented by 7,238 lines	
	Toll roads	Represented by 31 lines	
	Tunnel	Represented by 1 line	
	Auto ferries	Represented by 217 lines	
	All line features	Represented by 28,730 lines	

Note: This table is for the ESRI Roads coding scheme.

Line attributes

Classification attributes

ESRI_CLASS
ROAD_CLASS

ESRI developed a simplified road classification system by condensing the more than twenty-five road categories in the source database (the DLG) to only ten classes. The code numbers are stored in ESRI_CLASS, while the English equivalent is stored in ROAD_CLASS. The codes are as follows:

Codes		Equivalents
0	=	No class applies
1	=	Interstate highway
2	=	Limited access/divided highway
3	=	Other U.S. highway
4	=	Other state primary highway
5	=	State secondary highway
6	=	Improved road
7	=	Unimproved road
8	=	Parallel highway
9	=	Toll road
10	=	Tunnel
11	=	Auto ferry

Note: In this classification system, the parallel highway class (code 8) includes those U.S., minor U.S., and state highways that are through roads and generally within ten kilometers (six miles) of an interstate or other type of divided, limited-access highway.

CLASS1
DLG_CLASS1
CLASS2
DLG_CLASS2
CLASS3
DLG_CLASS3

The CLASS1, 2, and 3 attributes contain the detailed road segment classification codes used in the DLG source, and the DLG_CLASS1, 2, and 3 attributes contain their English word equivalents. CLASS1, 2, or 3 priority is assigned based on the degree of multilane, limited access, and then by decreasing jurisdictional control (interstate, U.S., state). The highest priority code is stored in CLASS1. If a road segment has no lower priority class, CLASS2 and/or CLASS3 contains a code of 0. As an example, if a highway is an "Interstate highway" (code = 1) *and* an "Other U.S. route" (code = 16), then CLASS1 contains "1," CLASS2 contains "16," and CLASS3 contains "0."

A relatively small number of lines are assigned CLASS2 and CLASS3 codes:

Attribute	Number of lines assigned codes > 0
CLASS1	27,710 (all line features in the layer)
CLASS2	978
CLASS3	9

The codes are as follows:

Codes		Equivalents
0	=	No class applies
1	=	Interstate highway
2	=	Major U.S. route, limited access, divided
3	=	Major state route, limited access, divided
4	=	Major other route, limited access, divided
5	=	Toll road
6	=	Interstate connector
7	=	Limited access, divided connector
8	=	Toll connector
9	=	Interstate under construction
10	=	Interstate, proposed
11	=	Minor U.S. route, limited access, 310 km (500 mi.) and longer
12	=	U.S., nonlimited access, 310 km (500 mi.) and longer
13	=	Minor U.S., limited access, less than 310 km (500 mi.)
14	=	U.S., nonlimited access, less than 310 km (500 mi.)
15	=	Other minor U.S. limited access
16	=	Other U.S. route
17	=	Other minor state primary route, limited access
18	=	Other state primary route
19	=	Minor U.S. parallel, within 10 km (6 mi.)
20	=	U.S. parallel, within 10 km (6 mi.)
21	=	Minor state parallel, within 10 km (6 mi.)
22	=	State parallel, within 10 km (6 mi.)
23	=	State secondary route (all weather, hard surface)
24	=	Light duty (all weather, improved)
25	=	Unimproved (fair or dry weather)
26	=	Road tunnel
27	=	Auto ferry

INTER_RTE1
INTER_RTE2
INTER_RTE3

Interstate highway route numbers. As many as three interstate route numbers may be assigned to a highway segment. If a segment of highway has multiple interstate route numbers, the lowest number is stored in INTER_RTE1. A code of "0" in either INTER_RTE2 or 3 means that the segment belongs to fewer than three interstate routes. A code of "0" for all three attributes indicates that the road segment is not part of the interstate highway system.

US_RTE1
US_RTE2
US_RTE3
US_RTE4

U.S. highway route numbers. As many as four U.S. route numbers may be assigned to a road segment. If a road segment has multiple U.S. route numbers, the numbers are ordered from lowest to highest, with the lowest number stored in US_RTE1. A code of "0" in US_RTE2, 3, or 4 means that the segment belongs to fewer than three U.S. routes. A code of "0" for all four attributes indicates that the road segment is not a U.S. route.

STATE_RTE1
STATE_RTE2
STATE_RTE3
STATE_RTE4

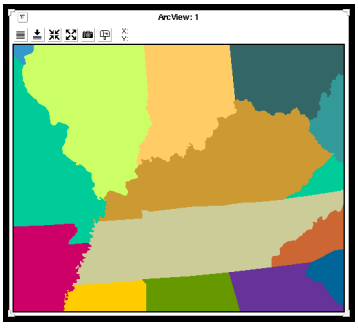
State route numbers. As many as four state route numbers may be assigned to a road segment. If a road segment has multiple state route numbers, the numbers are ordered from lowest to highest, with the lowest number stored in STATE_RTE1. A code of "0" in STATE_RTE2, 3, or 4 means that the segment belongs to fewer than three state routes. A code of "0" for all four attributes indicates that the road segment is not a state route.

Geographic reference attributes

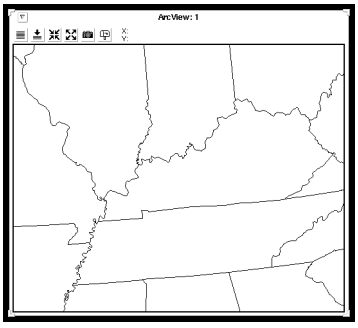
STATE_FIPS
STATE_NAME
SUB_REGION

Roads can be selected by the state name, state FIPS code, or U.S. subregion in which they are located.

State Boundaries



Polygons



Lines

Layer description

The State Boundaries layer serves as a state base map for the coterminous United States. The lower forty-eight states plus the District of Columbia are represented as polygons and boundary lines. Boundaries are classified as state or international boundaries, or as shorelines. Attributes for selecting geographic areas for display are contained in both the line and polygon attribute tables.

Using the State Boundaries coverage

Some states, like Michigan and New York, are represented by multiple polygons. Each of these polygons is assigned the statistics for the entire state. The statistical flag attribute (STAT_FLAG), which identifies only one polygon per state, can be used to prevent state totals from being added repeatedly during statistical analyses and to prevent text like the state name from being drawn repeatedly in a display. The statistical attribute flag value has been assigned to the largest polygon in each state.

Political boundaries are terminated at the oceans and the Great Lakes. In order to display the Great Lakes, the oceans, or adjacent portions of Mexico and Canada, use the Land/Ocean Display layer.

Summary of the State Boundaries coverage

		dBASE	UNIX
Coverage name and size (MB):	ST2M	1.67	1.59

Source and currency: USGS DLG, 1973

Thematic attribute groups: Geographic reference attributes (polygons and lines)
Statistical flag (polygons)
Classification attributes (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Coterminous states plus District of Columbia	49 features represented by 1,295 polygons	4
Lines	State boundaries	Represented by 151 lines	4
	International boundaries	Represented by 24 lines	
	Shorelines	Represented by 1,432 lines	
	All line features	Represented by 1,607 lines	

Polygon attributes

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

The state FIPS code, state name, or U.S. subregion can be used to select one or more state polygons for display or study. The U.S. subregions are shown on the map on page 1-2.

Statistical flag

STAT_FLAG

This attribute is used to select a single polygon for each state. The codes are as follows:

Codes		Definitions
0	=	Other polygon
1	=	Largest polygon

Line attributes

Geographic reference attributes

L_ST_FIPS
R_ST_FIPS

These attributes contain the FIPS codes of the states on either side of a state boundary. The left and right sides of the boundary are defined by the direction in which the line segment was digitized, so both attributes must be checked when querying for the boundaries of a particular state.

ST_NAMES

This attribute contains the names of states on both sides of a boundary. Two states are listed for state boundaries (e.g., "Wisconsin/Minnesota"). Only one state is identified for international boundaries and shorelines.

Classification attribute

BNDY_TYPE

Each line is classified according to boundary type. This attribute allows you to choose different symbols for political boundaries and coastlines. Wherever boundaries are coincident, rank is assigned beginning with coastlines in the reverse order of the list below. Thus, a state boundary that is also a coastline will be coded as "4" for coastline. The codes are as follows:

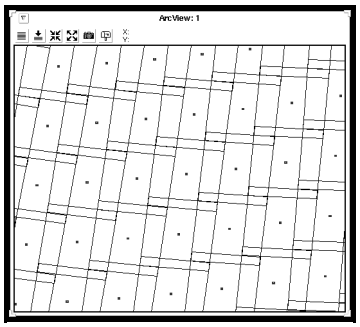
Codes		Equivalents
2	=	State boundary
3	=	International boundary
4	=	Coastline

ArcUSA 1:2M index layers

The coverages in the 1:2M index layers provide reference to Landsat satellite data, latitude/longitude, and to USGS topographic maps. Users can quickly determine the location of geographic features by using one of the latitude/longitude grids. The map and satellite indexes provide information needed for ordering those products; they can also provide a handy way to zoom in on a particular study area. The ArcUSA 1:2M index layers are listed in the table below.

Layer	Coverage Names
Landsat Nominal Scene Index	SAT_PT, SAT_BND
Latitude/Longitude Grids	LTLG2, LTLG5, LTLG10
USGS 1:24,000 Topographic Quadrangle Series Index	Q_24K, Q_24KN, Q_24KS, Q_24KW
USGS 1:100,000 Topographic Quadrangle Series Index	Q_100K
USGS 1:250,000 Topographic Quadrangle Series Index	Q_250K

Landsat Nominal Scene Index



Points and Lines

Layer description

The Landsat Nominal Scene Index layer contains an index to the coverage area for more than 700 nominal satellite scenes. The scene outlines apply to both Thematic Mapper (panchromatic) and Multispectral Scanner (color) data acquired by Landsats 4 and 5. The index is composed of two coverages, one containing the scene center points, and the other containing scene footprints. The attributes in both coverages are the same; they include numbers, row numbers, latitude/longitude coordinates, and states covered.

A scene footprint is a rectangular outline that represents the geographic extent of the Earth's surface for which data are collected during a particular Landsat orbit. Each footprint is identified by an orbital path number and scene row number, and each footprint has a corresponding center point.

Using the Landsat Nominal Scene Index coverages

This index is termed "nominal" because minor fluctuations in the satellite's orbit from one pass to the next can cause the actual scene center points and coverages to vary slightly. The index itself was generated through an algorithm supplied by EOSAT and indicates an average orbital pass. (Landsat 4 or 5 digital data and imagery are available from EOSAT at the address listed in Appendix E.)

Summary of the Landsat Nominal Scene Index coverages

Point coverage

		dBASE	UNIX
Coverage name and size (MB):	SAT_PT	0.18	0.18

Source and currency: EOSAT nominal scene algorithm, 1992

Thematic attribute groups: Classification attributes

Feature class	Feature	Number of features	Number of attributes
Points	Landsat 4 or 5 nominal scene center points	702 scene centers represented by 702 points	15

A scene footprint resembles a polygon but is represented by a single self-closing line. The footprint boundary lines may be queried, but because the footprints overlap somewhat, we recommend that you query this layer by using the scene center points.

Boundary coverage

		dBASE	UNIX
Coverage name and size (MB):	SAT_BND	0.24	0.22

Source and currency: EOSAT nominal scene algorithm, 1992

Thematic attribute groups: Classification attributes

Feature class	Feature	Number of features	Number of attributes
Lines	Landsat 4 or 5 nominal scene footprints	702 scenes represented by 702 lines	15

Point attributes

(These attributes are also associated with the line coverage.)

Classification attributes

PATH
ROW

Landsat 4 or 5 satellite path number and row number.

SCN_CENTER

Latitude and longitude of the scene center, expressed as degrees, minutes, seconds, North latitude, and degrees, minutes, seconds West longitude. Example:

135 35 35N, 135 35 35W

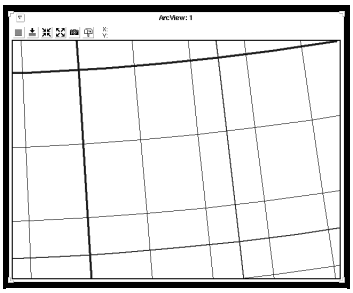
ST_FIPS1
ST_FIPS2
ST_FIPS3
ST_FIPS4
ST_FIPS5
ST_FIPS6

These attributes contain the FIPS codes for the states the scene covers (to a maximum of six). The FIPS codes are always stored beginning with ST_FIPS1, but the states are not listed in any particular order. (For a complete listing of state FIPS codes, see Appendix C.)

ST_NAME1
ST_NAME2
ST_NAME3
ST_NAME4
ST_NAME5
ST_NAME6

The names of the states the scene covers are stored in these attributes. The state names are always stored beginning with ST_NAME1, but they are not listed in any particular order.

Latitude/ Longitude Grids



Lines

Layer description

The Latitude/Longitude Grids layer contains lines that represent geographic parallels (lines of latitude) and meridians (lines of longitude) at intervals of 2 degrees, 5 degrees, and 10 degrees. The grids for the three intervals are contained in separate coverages. Attributes include the latitude or longitude value of each line and codes indicating whether a line segment is inside the continental United States.

Using the Latitude/Longitude Grids coverages

The "U.S./Non-U.S." attribute gives you the flexibility to symbolize the latitude/longitude grid differently in the foreground and background of a display. For example, you might choose to display the graticule in the ocean areas (background), and to exclude it from the area inside the United States to avoid obscuring other map features.

The scale of a map and the extent to which the grid will be used for reference will determine the most suitable grid interval. The 10-degree grid is appropriate for small-scale displays, such as maps showing the full extent of the United States. The 5-degree grid is excellent for regional displays, while the 2-degree grid is best for large-scale maps showing a state or local area.

To create grid resolutions that are finer than 2 degrees, the latitude/longitude grids can be supplemented with the USGS topographic map sheet grids.

Summary of Latitude/Longitude Grids coverages

Two-degree-interval coverage

		dBASE	UNIX
Coverage name and size (MB):	LTLG2	2.63	0.23

Source and currency: ESRI, algorithm generated, 1992

Thematic attribute groups: Classification attributes

Feature class	Feature	Number of features	Number of attributes
Lines	Latitude and longitude lines, 2- by 2-degree grid	Represented by 1,225 lines	3

Five-degree-interval coverage

		dBASE	UNIX
Coverage name and size (MB):	LTLG5	0.08	0.08

Source and currency: ESRI, algorithm generated, 1992

Thematic attribute groups: Classification attributes

Feature class	Feature	Number of features	Number of attributes
Lines	Latitude and longitude lines, 5- by 5-degree grid	Represented by 314 lines	3

Ten-degree-interval coverage

		dBASE	UNIX
Coverage name and size (MB):	LTLG10	0.04	0.06

Source and currency: ESRI, algorithm generated, 1992

Thematic attribute groups: Classification attributes

Feature class	Feature	Number of features	Number of attributes
Lines	Latitude and longitude lines, 10- by 10-degree grid	Represented by 134 lines	3

Line attributes

Classification attributes

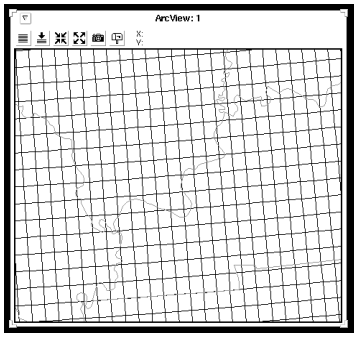
LATITUDE — The latitude of the grid line. This attribute contains a blank for lines of longitude.

LONGITUDE — The longitude of the grid line. All longitude values in ArcUSA begin with a minus sign that indicates West longitude. This attribute contains a blank for lines of latitude.

US_NONUS — Classification code for the line segment. The codes are as follows:

Codes	Definitions
0 =	Line segment lies outside the United States. (Over oceans and the Great Lakes, the United States is defined by shorelines rather than by political boundaries.)
1 =	Line segment lies inside the United States.

USGS 1:24,000 Topographic Quadrangle Series Index



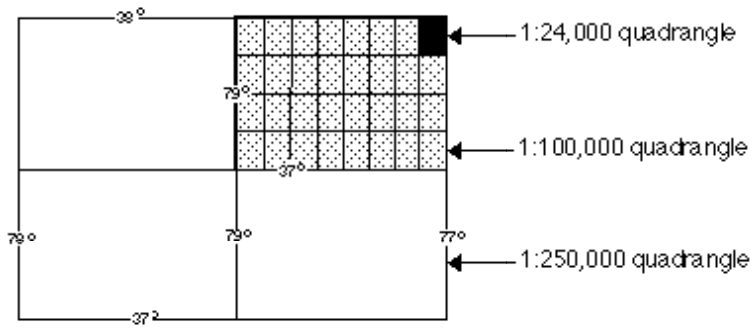
Polygons

Layer description

The polygons in the USGS 1:24,000 Topographic Quadrangle Series Index layer contain the outlines of the U.S. Geological Survey 1:24,000-scale topographic maps (7.5-minute quadrangles). Quadrangle name, USGS map reference code, publication data, and map coverage by state are given for each quadrangle.

Using the USGS Topographic Quadrangle Series Index layers

The USGS 1:24,000 Topographic Quadrangle Series Index layer is one of three quadrangle index layers in the 1:2M ArcUSA database. Indexes to maps at scales of 1:100,000 (30 by 60 minutes) and 1:250,000 (1 by 2 degrees) are also included. The relationship between these map scales and the graticule are illustrated in the diagram below.



Summary of USGS 1:24,000 Topographic Quadrangle Series Index coverages

		dBASE	UNIX
Coverage names and sizes (MB):	Q_24K	26.41	26.01
	Q_24KN	8.82	8.82
	Q_24KS	7.47	7.49
	Q_24KW	10.52	10.47

Source and currency: Attributes and origin from USGS Topographic Names Database, Published Map Sheet Data File (also known as the T-70 file), and various published indexes. Grid from an ESRI algorithm. Current for map sheet information to 1986.

Thematic attribute groups: Classification attributes

Feature class	Feature	Number of features (full U.S.)	Number of attributes
Polygons	Areas covered by USGS 1:24,000 quadrangles	Represented by 53,911 polygons	19

In general, these map series systematically divide the United States into units of regular space and size. However, in order to minimize the number of maps that would contain mostly open water, the USGS deviated from the regular system in four different ways: rotation, over edge extensions, offsets, and inserts. These irregularities in the map sheet boundaries are restricted to coastal areas and offshore islands. More than one of these modifications may have been made to a single map sheet.

- In *rotation*, the long east–west axis of the map sheet is reoriented north–south in order to parallel the direction of a long section of coastline. This technique is restricted to the 1:250,000 and 1:100,000 map series.

- In an *over edge extension*, one edge of a map sheet is extended in order to enlarge the coverage area for a single sheet.
- In an *offset,* the location of a whole map sheet is shifted in order to create the best fit between the map sheet and the land area.
- The use of *inserts* refers to showing small, isolated areas on unused portions of nearby map sheets.

The quadrangle boundaries in the ArcUSA database are entirely regular; that is, none of the modifications of map sheet size or location are reflected in the grids. Therefore, the quadrangles in the index do not necessarily correspond to the map sheets on which the land area is published. Also, note that because the index data were developed at a scale of 1:2,000,000, the location of the quadrangle boundaries on a zoomed-in display may not correspond exactly to the boundary of the published map sheet.

Using the USGS 1:24,000 Topographic Quadrangle Series coverages

The 1:24,000 map series index coverage for the full coterminous United States (Q_24K) is made up of nearly 54,000 polygons representing the locations of the 1:24,000-scale quadrangles. The grid does not replicate offset, over-edge, and insert sheet layouts that occur near the shorelines, but correct map sheet information is included for all land areas.

To optimize software performance, query this large layer using the regional coverages instead of the full U.S. coverage, and, whenever possible, break logical expressions for selecting quadrangles into several simple statements instead of using a single complex expression. For example, to select the quadrangles that cover Ohio, first select the records where ST_NAME1 contains Ohio; then select

records where ST_NAME2 contains Ohio; and so on. Using a single expression that searches all four state name attributes at once reduces performance.

The detail in this layer makes it especially appropriate for display at more detailed scales, such as creating a topographic map index for a study area.

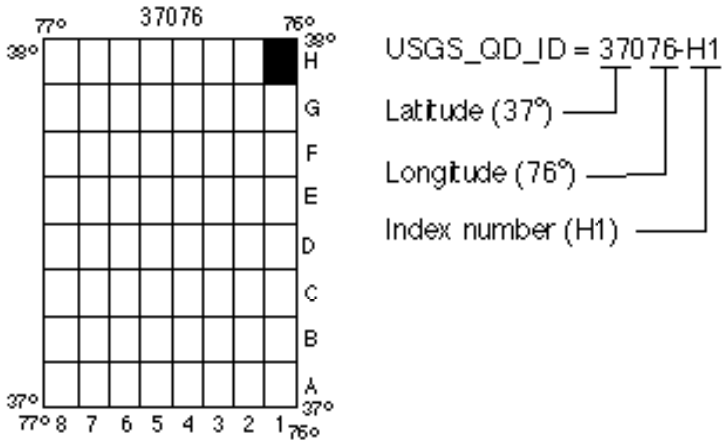
If the 2-degree latitude/longitude grid and this index are overlaid, a 2-degree-by-2-degree area will be 16 quadrangles wide by 16 quadrangles high.

Polygon attributes

Quadrangle identification attributes

USGS_QD_ID

The quadrangle identification number. As shown in the sketch below, the ID number incorporates latitude, longitude, and an alphanumeric grid cell code. ID numbers are included for theoretical quadrangles (those that do not correspond exactly to published map sheets).



QUAD_NAME

The quadrangle name. The names of theoretical quadrangles indicate the quadrangle's relationship to the published map

on which the land area appears ("Charleston OE W," for example). The word "(digital)" in a quadrangle name also indicates that the quadrangle is theoretical. It is usually used for quadrangles that show islands that are distant from the map sheets on which they are inserted.

MAP_EDIT

A single number or letter code for the type of map. If several types of maps exist for the same quadrangle, the lowest code value is listed. The codes are as follows:

Codes		Definitions
1	=	Topographic contour
3	=	Planimetric
9	=	Slope
G	=	Surface management status (Bureau of Land Management)
H	=	Surface minerals (Bureau of Land Management)
K	=	Topography–bathymetry, line map
L	=	Topography–bathymetry, orthophoto map

Quadrangle coverage attributes

ST_FIPS1
ST_FIPS2
ST_FIPS3
ST_FIPS4

These attributes contain the FIPS codes for the states the quadrangle covers (up to four). The FIPS codes are always stored beginning with ST_FIPS1, but the states are not listed in any particular order. (For a complete listing of state FIPS codes, see Appendix C.) If a quadrangle covers fewer than four states, one or more attributes contain a blank.

ST_NAME1
ST_NAME2
ST_NAME3
ST_NAME4

The names of the states the quadrangle covers are stored in these attributes. The state names are always stored beginning with ST_NAME1, but they are not listed in any particular order. If a quadrangle covers fewer than four states, one or more attributes contain a blank.

Note that the information in the ST_NAME attributes is derived from the published map sheets, and not from the quadrangle boundaries in this index. Therefore, if there is any discrepancy between the information conveyed by the ST_NAME attributes and by a display of the quadrangle

index as to which states are covered by a given map sheet, the information conveyed by the ST_NAME attributes should be considered more accurate.

ST1_SQ_MI
ST2_SQ_MI
ST3_SQ_MI
ST4_SQ_MI

The area of the states represented by the quadrangle, expressed in square miles. If a quadrangle covers fewer than four states, one or more attributes are blank.

TOT_Q_SQMI

The total area represented by the quadrangle, expressed in square miles.

Publication data

DATE_REV

Most recent date of revision, expressed as the last two digits of the year. This information was not available for some quadrangles.

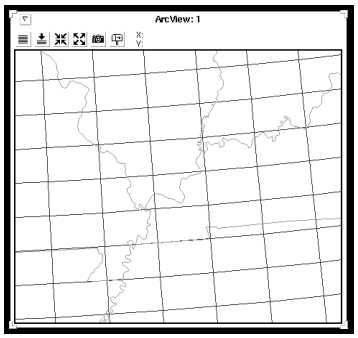
DATE_PUB

Most recent date of publication, expressed as the last two digits of the year. This information was not available for some quadrangles.

PHOTO_R_DT

Most recent date of photo revision, if applicable, expressed as the last two digits of the year. This information was not available for some quadrangles.

USGS 1:100,000 Topographic Quadrangle Series Index



Polygons

Layer description

The USGS 1:100,000 Topographic Quadrangle Series Index layer contains polygons that represent the geographic extent of USGS 1:100,000 topographic maps (30- by 60-minute quadrangles). Quadrangle names, publication data, and map coverage by state are given for each quadrangle.

Using the USGS 1:100,000 Topographic Quadrangle Series Index coverages

The quadrangle index contained in this layer is a systematic grid based on the graticule. One 1:100,000-scale map sheet covers the same area as thirty-two 1:24,000 quadrangles. The relationship between this quadrangle index, the graticule, and the other two quadrangle series in the ArcUSA database are further explained in "Using the USGS Topographic Quadrangle Index Layers" (page 4-45).

In addition to being useful as an index for determining the geographic coverage or names of particular quadrangles, this medium-scale index grid can be a handy visual reference for regional displays. Setting the map extent to the limits of one or more quadrangle units is also a simple way to display an area of interest.

The 2- or 5-degree grids can be overlaid on this index to aid in geographic reference or to create displays of blocks of quadrangles.

Summary of the USGS 1:100,000 Topographic Quadrangle Series Index coverage

		dBASE	UNIX
Coverage name and size (MB):	Q_100K	1.18	1.35

Source and currency: Attributes and origin from USGS Topographic Names Database, Published Map Sheet Data File (also known as the T-70 file), and various published indexes. Grid from an ESRI algorithm. Current to 1986.

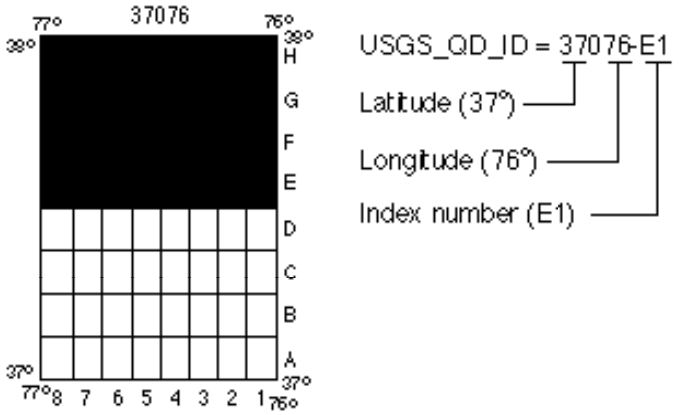
Thematic attribute groups: Classification attributes

Feature class	Feature	Number of features	Number of attributes
Polygons	Areas covered by USGS 1:100,000 quadrangles	Represented by 1,809 polygons	12

Polygon attributes

Quadrangle identification attributes

USGS_QD_ID — The quadrangle identification number. As shown in the sketch below, the ID number incorporates latitude, longitude, and an alphanumeric grid cell code. ID numbers are included for theoretical quadrangles (those that do not correspond exactly to published map sheets).



QUAD_NAME — The quadrangle name. The names of theoretical quadrangles indicate the quadrangle's relationship to the published map on which the land area appears ("Charleston OE W," for example). The word "(digital)" in a quadrangle name also indicates that the quadrangle is theoretical. It is usually used for quadrangles that show islands that are distant from the map sheets on which they are inserted.

MAP_EDIT — A single number or letter code for the type of map. If several types of maps exist for the same quadrangle, the lowest code value is listed. The codes are as follows:

Codes		Definitions
1	=	Topographic contour
3	=	Planimetric
G	=	Surface management status (BLM)
H	=	Surface minerals (BLM)
K	=	Topography–bathymetry, line map

Quadrangle coverage attributes

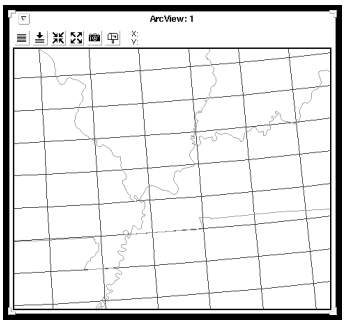
ST_FIPS1
ST_FIPS2
ST_FIPS3
ST_FIPS4 — These attributes contain the FIPS codes for the states the quadrangle covers (up to four). The FIPS codes are always stored beginning with ST_FIPS1, but the states are not listed in any particular order. (For a complete listing of state FIPS codes, see Appendix C.) If a quadrangle covers fewer than four states, one or more attributes are blank.

ST_NAME1
ST_NAME2
ST_NAME3
ST_NAME4 — The names of the states the quadrangle covers are stored in these attributes. The state names are always stored beginning with ST_NAME1, but they are not listed in any particular order.

Publication data

DATE_PUB — Most recent date of publication, expressed as the last two digits of the year.

USGS 1:250,000 Topographic Quadrangle Series Index



Polygons

Layer description

The USGS 1:250,000 Topographic Quadrangle Series Index layer contains polygons that represent the geographic extent of USGS 1:250,000 topographic maps. Quadrangle names, publication data, and map coverage by state are given for each quadrangle.

Using the USGS 1:250,000 Topographic Quadrangle Series Index coverages

The quadrangle index contained in this layer is a systematic grid based on the graticule. The relationship between this quadrangle index, the graticule, and the other two quadrangle series in the ArcUSA database are explained in "Using the USGS Topographic Quadrangle Index Layers" (page 4-45).

In addition to its being useful as an index for determining the geographic coverage or names of particular quadrangles, this small-scale index grid can be a handy visual reference for regional displays. Setting the map extent to the limits of one or more quadrangle units is also a simple way to display an area of interest.

The 5- or 10-degree grids can be overlaid with this index to aid in geographic reference or to create displays of blocks of quadrangles.

Summary of the USGS 1:250,000 Topographic Quadrangle Series Index coverage

		dBASE	UNIX
Coverage name and size (MB):	Q_250K	0.42	0.44

Source and currency: Attributes and origin from USGS Topographic Names Database, Published Map Sheet Data File (also known as the T-70 file), and various published indexes. Grid from an ESRI algorithm. Current to 1986.

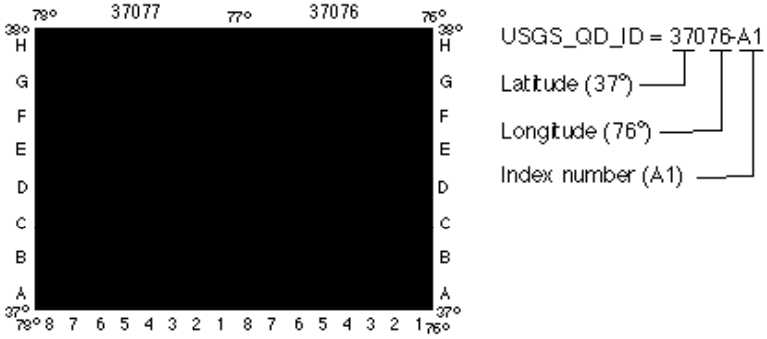
Thematic attribute groups: Classification attributes

Feature class	Feature	Number of features	Number of attributes
Polygons	Areas covered by USGS 1:250,000 quadrangles	Represented by 488 polygons	13

Polygon attributes

Quadrangle identification attributes

USGS_QD_ID — The quadrangle identification number. As shown in the sketch below, the ID number incorporates latitude, longitude, and an alphanumeric grid cell code. ID numbers are included for theoretical quadrangles (those that do not correspond exactly to published map sheets).



QUAD_NAME — The quadrangle name. The names of theoretical quadrangles indicate the quadrangle's relationship to the published map on which the land area appears ("Charleston OE W," for example). The word "(digital)" in a quadrangle name also indicates that the quadrangle is theoretical. It is usually used for quadrangles that show islands that are distant from the map sheets on which they are inserted.

MAP_EDIT — A single-letter code for the type of map. If several types of maps exist for the same quadrangle, the lowest code value is listed. The codes are as follows:

Codes		Definitions
1	=	Topographic contour
3	=	Planimetric
4	=	Orthophoto map with contours
6	=	Shaded relief
8	=	Other
J	=	Satellite imagery
K	=	Topography–bathymetry, line map

Quadrangle coverage attributes

ST_FIPS1
ST_FIPS2
ST_FIPS3
ST_FIPS4 — These attributes contain the FIPS codes for the states the quadrangle covers (up to four). The FIPS codes are always stored beginning with ST_FIPS1, but the states are not listed in any particular order. (For a complete listing of state FIPS codes, see Appendix C.) If a quadrangle covers fewer than four states, one or more attributes are blank.

ST_NAME1
ST_NAME2
ST_NAME3
ST_NAME4 — The names of the states the quadrangle covers are stored in these attributes. The state names are always stored beginning with ST_NAME1, but they are not listed in any particular order.

Publication data

DATE_REV — Most recent date of revision, expressed as the last two digits of the year.

DATE_PUB	Most recent date of publication, expressed as the last two digits of the year.

ArcUSA 1:2M state and county statistical attribute layers

The coverages in the ArcUSA 1:2M statistical attribute layers provide a diverse set of statistics from a variety of sources for both the states and counties. The sources are the U.S. Census, the *County and City Data Book*, the Census of Agriculture, and the GeoEcology Database. These diverse data permit the user to study the United States from a number of disciplinary viewpoints and to establish relationships between them.

All state and county rankings in ArcUSA 1:2M are based on data from all fifty states plus the District of Columbia, even though information for only forty-eight states plus the District of Columbia are included in the database. For example, the rank of states by population is based on fifty-one political units, but two ranks (the ranks of Alaska and Hawaii) will be missing from the list.

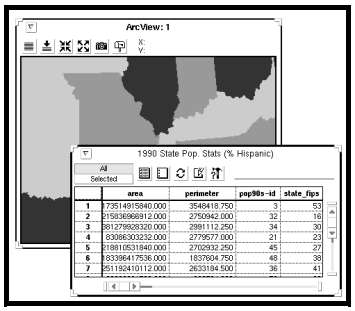
Each statistical attribute coverage contains either state or county boundaries so that the statistical attributes can be displayed on an appropriate cartographic base. The state and county boundaries in the statistical attribute layers are identical to those provided in the cartographic layers (coverages ST2M and CTY2M).

The state and county statistical attribute layers are listed on the next page.

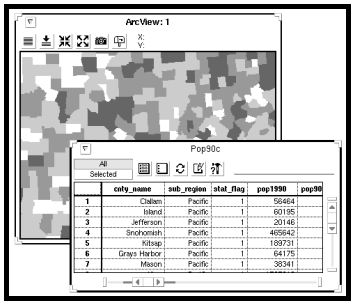
State and county statistical attribute layers:

Layer	Coverage Names
1990 U.S. Census, Public Law 94-171 Data by State	POP90S
1990 U.S. Census, Public Law 94-171 Data by County	POP90C
Agricultural Product Inventory by State	AGIN_S
Agricultural Product Inventory by County	AGIN_C
Agricultural Product Market Value by State	AGVL_S
Agricultural Product Market Value by County	AGVL_C
Demographic and Health Attributes by State	POP88S
Demographic and Health Attributes by County	POP99C
Environmental Attributes by County	ENVIR
Government and Financial Attributes by State	GOV88S
Government and Financial Attributes by County	GOV88C
Socioeconomic Attributes by State	SOC88S
Socioeconomic Attributes by County	SOC88C

1990 U.S. Census, Public Law 94-171 Data



Polygons and lines for states



Polygons and lines for counties

Layer descriptions

The coverages in the state and county 1990 U.S. Census, Public Law 94-171 Data layers contain state or county population statistics from the 1990 Census. The coverages include population counts by race, age, and ethnicity, which are known as "Public Law 94-171 data" because that law requires that these statistics be the first released from the new census and that they be utilized in the decennial process of congressional and legislative redistricting.

Using the 1990 U.S. Census, Public Law 94-171 coverages

The only category of population by age group included in this data set is people 18 years of age and older. Hispanic origin is the only ethnic category, and it is treated as an entirely separate variable from race. In other words, someone of Hispanic origin can belong to any one of the five race categories.

Summary of 1990 U.S. Census, Public Law 94-171 Data coverages

State coverage

		dBASE	UNIX
Coverage name and size (MB):	POP90S	2.49	1.87

Source and currency: Cartography from Digital Line Graphs; current to 1973
Attribute data from 1990 U.S. Census

Thematic attribute groups:
Geographic reference attributes (polygons and lines)
Statistical flag (polygons)
Total population (polygons)
Population by race (polygons)
Adult population by race (polygons)
Total Hispanic population (polygons)
Non-Hispanic population by race (polygons)
Total adult Hispanic population (polygons)
Adult non-Hispanic population by race (polygons)
Housing units (polygons)
Classification attributes (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Coterminous states plus District of Columbia	49 features represented by 1,295 polygons	57
Lines	State and international boundaries, shorelines	Represented by 1,607 lines	4

County coverage

		dBASE	UNIX
Coverage name and size (MB):	POP90C	8.17	5.69

Source and currency: Cartography from Digital Line Graphs; current to 1988
Attribute data from 1990 U.S. Census

Thematic attribute groups: Same as for state-level coverage (above)

Feature class	Feature	Number of features	Number of attributes
Polygons	Counties and independent cities of coterminous United States	3,111 features represented by 4,409 polygons	60
Lines	County, state, and international boundaries, shorelines	Represented by 10,485 lines	4

The polygon and line attributes described below are present in both the state and the county coverages, except where specifically noted.

Polygon attributes

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

The state FIPS code, state name, and U.S. subregion can be used to select particular state or county polygons for display or study. The U.S. subregions are shown on the map in Chapter 1.

These geographic reference attributes appear only in the county-level coverages.

CNTY_FIPS
FIPS
CNTY_NAME

The county polygon coverages contain the county FIPS code, the combined state and county FIPS code, and the county name.

Statistical flag

STAT_FLAG

Flag to identify a unique polygon for each state or county. The codes are as follows:

Codes		Definitions
0	=	Other polygon
1	=	Largest polygon

Total population

POP1990

Total population of the state or county.

POP90_SQMI

Average number of people per square mile. Computed by dividing TOTAL by the land area of the state or county.

Population by race

WHITE
P_WHITE

Number of people and percentage of population in the state or county identified as white. Percentage is computed by dividing WHITE by POP1990.

BLACK
P_BLACK

Number of people and percentage of population in the state or county identified as black. Percentage is computed by dividing BLACK by POP1990.

AMERIND
P_AMERIND

Number of people and percentage of population in the state or county identified as American Indian. Percentage is computed by dividing AMERIND by POP1990.

ASIAN
P_ASIAN

Number of people and percentage of population in the state or county identified as Asian. Percentage is computed by dividing ASIAN by POP1990.

OTHER
P_OTHER

Number of people and percentage of population in the state or county identified as belonging to a race other than white, black, American Indian, or Asian. Percentage is computed by dividing OTHER by POP1990.

Adult population by race

TOTAL18
P_TOTAL18

Number of people 18 years of age and older in the state or county; and percentage of population 18 years of age and older. Percentage is computed by dividing TOTAL18 by POP1990.

WHITE18
P_WHITE18

Number of people and percentage of population in the state or county identified as being white and 18 years of age or older. Percentage is computed by dividing WHITE18 by TOTAL18.

BLACK18
P_BLACK18

Number of people and percentage of population in the state or county identified as being black and 18 years of age or older. Percentage is computed by dividing BLACK18 by TOTAL18.

AMERIN18
P_AMERIN18

Number of people and percentage of population in the state or county identified as being American Indian and 18 years of age or older. Percentage is computed by dividing AMERIN18 by TOTAL18.

ASIAN18
P_ASIAN18

Number of people and percentage of population in the state or county identified as being Asian and 18 years of age or older. Percentage is computed by dividing ASIAN18 by TOTAL18.

OTHER18
P_OTHER18

Number of people and percentage of population in the state or county identified as belonging to a race other than white, black, American Indian, or Asian, and being 18 years of age or older. Percentage is computed by dividing OTHER18 by TOTAL18.

Total Hispanic population

HISPANIC
P_HISPANIC

Number of people of all races identified as being of Hispanic origin, and percentage of population identified as being of Hispanic origin. Percentage is computed by dividing HISPANIC by POP1990.

Non-Hispanic population by race

NHISPAN
P_NHISPAN

Number of people in the state or county identified as *not* being of Hispanic origin (computed by adding NHWHITE, NHBLACK, NHAMIND, NHASIAN, and NHOTHER), and percentage of population identified as *not* being of Hispanic origin (computed by dividing NHISPAN by POP1990).

NHWHITE
P_NHWHITE

Number of people and percentage of population in the state or county identified as being white and not of Hispanic origin. Percentage is computed by dividing NHWHITE by NHISPAN.

NHBLACK
P_NHBLACK

Number of people and percentage of population in the state or county identified as being black and not of Hispanic origin. Percentage is computed by dividing NHBLACK by NHISPAN.

NHAMIND
P_NHAMIND

Number of people and percentage of population in the state or county identified as being American Indian and not of Hispanic origin. Percentage is computed by dividing NHAMIND by NHISPAN.

NHASIAN
P_NHASIAN

Number of people and percentage of population in the state or county identified as being Asian and not of Hispanic origin. Percentage is computed by dividing NHASIAN by NHISPAN.

NHOTHER
P_NHOTHER

Number of people and percentage of population in the state or county identified as being of a race other than white, black, American Indian, or Asian, and not being of Hispanic origin. Percentage is computed by dividing NHOTHER by NHISPAN.

Total adult Hispanic population

HISPAN18
P_HISPAN18

Number of people in the state or county identified as being 18 years of age or older, and of Hispanic origin; percentage of population identified as such. Percentage is computed by dividing HISPAN18 by POP1990.

Adult non-Hispanic population by race

NHISPN18
P_NHISPN18

Number of people in the state or county identified as being 18 years of age and older and not of Hispanic origin (computed by adding NHWHIT18, NHBLACK18, NHAMIN18, NHASIA18, and NHOTHE18), and percentage of population identified as being 18 years of age and older and not of Hispanic origin (computed by dividing NHISPN18 by POP1990).

NHWHIT18
P_NHWHIT18

Number of people and percentage of population in the state or county identified as being white, not of Hispanic origin, and 18 years of age or older. Percentage is computed by dividing NHWHIT18 by TOTAL18.

NHBLK18
P_NHBLK18

Number of people and percentage of population in the state or county identified as being black, not of Hispanic origin, and 18 years of age or older. Percentage is computed by dividing NHBLACK18 by TOTAL18.

NHAMIN18
P_NHAMIN18

Number of people and percentage of population in the state or county identified as being American Indian, not of Hispanic origin, and 18 years of age or older. Percentage is computed by dividing NHAMIN18 by TOTAL18.

NHASIA18
P_NHASIA18

Number of people and percentage of population in the state or county identified as Asian, not of Hispanic origin, and 18 years of age or older. Percentage is computed by dividing NHASIA18 by TOTAL18.

NHOTHE18
P_NHOTHE18

Number of people and percentage of population in the state or county identified as being of a race other than white, black, American Indian, or Asian, as not being of Hispanic origin, and as being 18 years of age or older. Percentage is computed by dividing NHOTHE18 by TOTAL18.

Housing units

HSE_UNITS

Total number of housing units in the state or county in 1990.

Line attributes

Thorough definitions of these attributes are given on page 4-7.

Geographic reference attributes

L_ST_FIPS
R_ST_FIPS

The FIPS code of the states on either the left or right side of a boundary segment are contained in these attributes.

ST_NAMES

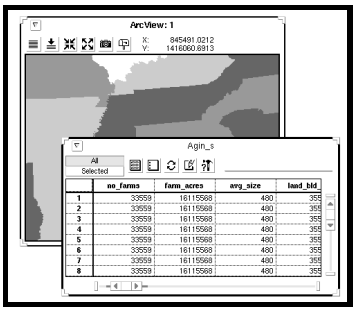
The states on either side of a boundary are identified by name in this attribute.

Classification attribute

BNDY_TYPE — Each line is classified according to boundary type. The codes are as follows:

Codes		Definitions
1	=	County boundary
2	=	State boundary
3	=	International boundary
4	=	Coastline

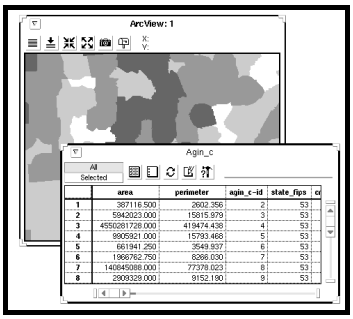
Agricultural Product Inventory



Polygons and lines for states

Layer descriptions

Agricultural Product Inventory coverage attributes include general farm statistics for states and counties, such as the total number of farms, the number of farms of a given size, and total acres of harvested crops. Other attributes give more specific information about the number of farms, acreage, and yield for various agricultural products ranging from cattle to pineapples. (The next layer, Agricultural Product Market Value, focuses on the amount and value of products sold.)



Polygons and lines for counties

Using the agricultural statistics layers

The attributes in the Agricultural Product Inventory and Agricultural Product Market Value layers come from the U.S. Census of Agriculture. The agricultural census does not recognize or summarize statistics for independent cities. Such places may have a blank or zero value for some agricultural attributes.

Complete information about how agricultural census data are collected is available in Census Bureau publications. For your convenience, a few general definitions of some important Census Bureau terms are included below.

A *farm* is defined as any place from which $1,000 or more of agricultural products were produced and sold, or normally would have been sold, during the census year.

Farm size is calculated by including land owned and operated as well as land rented from others. Land rented to a tenant was considered the tenant's farm and not the owner's.

Summary of Agricultural Product Inventory coverages

State coverage

		dBASE	UNIX
Coverage name and size (MB):	AGIN_S	3.94	2.64

Source and currency: Cartography from Digital Line Graphs; current to 1973
Attribute data from 1987 U.S. Census of Agriculture, Table 1

Thematic attribute groups:
Geographic reference attributes (polygons and lines)
Statistical flag (polygons)
General farm description attributes (polygons)
Farms by value of sales (polygons)
Farm operators (polygons)
Farm production expenses (polygons)
Farm inventory attributes (polygons)
Classification attributes (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Coterminous states plus District of Columbia	49 features represented by 1,295 polygons	107
Lines	State and international boundaries, shorelines	Represented by 1,607 lines	4

Acres harvested. If two or more crops were harvested from the same land during the year, the acres were counted for each crop. Therefore, the total number of acres of all crops harvested generally exceeds the number of acres of cropland harvested. An exception is land used for hay; when more than one cutting of hay was taken from the same acres, the acres were counted only once but the quantity harvested includes all cuttings. If a crop was planted but not harvested, the acres were not reported as harvested. However, acres of land in fruit orchards (including citrus and other groves) are counted as harvested whether the crop was harvested or failed.

Agricultural Product Inventory

County coverage

		dBASE	UNIX
Coverage name and size (MB):	AGINC	13.11	8.33

Source and currency: Cartography from Digital Line Graphs; current to 1988
Attribute data from 1987 U.S. Census of Agriculture, Table 1

Thematic attribute groups: Same as for state-level coverage (above)

Feature class	Feature	Number of features	Number of attributes
Polygons	Counties and independent cities of coterminous United States	3,111 features represented by 4,409 polygons	110
Lines	County, state, and international boundaries, shorelines	Represented by 10,485 lines	4

Market value of agricultural products. Values given for agricultural products represent the gross market value before taxes and production expenses of all agricultural products sold or removed from the place in 1987 regardless of who received the payment. They do not include payments received for participation in federal farm programs. The value of crops sold in 1987 does not necessarily represent the sales from crops harvested in 1987 due to sale of stored crops or storage of new crops. Sales figures are reported in current (1987) dollars and have not been adjusted for inflation.

Using the Agricultural Product Inventory coverages

Some attributes in these layers have the same names as attributes in the Agricultural Product Market Value layers, but they contain a slightly different statistic. For example, in these layers COTTONFARM contains the number of farms that *raised* cotton during 1987; in the Agricultural Product Market Value layers, COTTONFARM contains the number of farms that *sold* cotton.

An attribute containing a negative number indicates that no data exist, or that data were suppressed, by the Census Bureau for that particular geographic unit. Lack of data may result from a number of situations, such as the suppression of information to maintain the privacy of individual farms.

The polygon and line attributes described below are present in both the state and county coverages, except where specifically noted.

Polygon attributes

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

The state FIPS code, state name, and U.S. subregion can be used to select particular state or county polygons for display or study. The U.S. subregions are shown on the map in Chapter 1.

These geographic reference attributes appear only in the county-level coverages.

CNTY_FIPS
FIPS
CNTY_NAME

The county polygon coverages contain the county FIPS code, the combined state and county FIPS code, and the county name.

Statistical flag

STAT_FLAG

Flag to identify a unique polygon for each state or county. The codes are as follows:

Codes		Definitions
0	=	Other polygon
1	=	Largest polygon

General farm description attributes

NO_FARMS
FARM_ACRES
AVG_SIZE

Number of farms, amount of farmland in acres, and average farm size in acres for the state or county.

LAND_BLD_F
LAND_BLD_A
MACHINE_F

The average value in dollars of the land and buildings per farm and per acre for the state or county; and the average estimated market value in dollars of machinery per farm for the state or county.

F_1_9ACRE
F_10_49
F_50_179
F_180_499
F_500_999
F_OVER_999

The number of farms between 1 acre and more than 999 acres in size in the state or county.

CROP_FARMS
CROP_ACRES

The number of farms in the state or county with cropland, and total area of cropland, in acres.

HARVSTED_F
HARVSTED_A

Number of farms in the state or county with harvested cropland; area of harvested cropland, in acres.

IRRIGATE_F
IRRIGATE_A

Number of farms in the state or county with irrigated land; area of irrigated land, in acres. Irrigated land includes all land watered by any artificial or controlled means, such as sprinklers, furrows or ditches, and spreader dikes.

Value of crop and livestock sales

VAL_CROPS
VAL_ANIMAL

Market value of crops sold for the state or county, including nursery and greenhouse crops; market value of livestock, poultry, and their products sold. Both values in thousands of dollars.

Farm operators

FARMERS
OTH_OPERS

Number of farm operators in the state or county for whom farming is the principal occupation; number of farm operators for whom farming is *not* the principal occupation.

OTHJOB_ANY
OTHJOB_200

Number of farm operators in the state or county who have worked one or more days off the farm; number of farm operators who have worked 200 or more days off the farm.

AVG_AGE

The average age of farm operators, in years, for the state or county.

Farm production expenses

PROD_EXP

Total farm production expenses for the state or county, in thousands of dollars.

AVG_EXP

Average farm production expenses per farm for the state or county, in dollars.

Farm inventory attributes

CATTLEFARM CATTLE	Number of farms in the state or county with an inventory of cattle and calves, and number of cattle and calves.
BEEFFARMS BEEFCOWS	Number of farms in the state or county with beef cows, and number of beef cows.
MILKFARMS MILKCOWS	Number of farms in the state or county with dairy cows, and number of dairy cows.
COWSOLDFAR CATTLESOLD	Number of farms in the state or county that sold cattle and calves, and number of cattle and calves sold.
HOGFARMS HOGS HOGSOLDFAR HOGS_SOLD	Number of farms in the state or county with hogs and pigs, number of hogs and pigs, number of farms that sold hogs and pigs, and number of hogs and pigs sold.
SHEEPFARMS SHEEP	Number of farms in the state or county with sheep and lambs, and number of sheep and lambs.
CHICKENFAR CHICKENS BROILSLD_F BROIL_SOLD	Number of farms in the state or county with chickens, number of chickens, number of farms that sold broilers, and number of broilers sold.
CORNFARMS CORNACRES CORN_BU	Number of farms in the state or county raising corn for grain or seed, acres in corn for grain or seed, and bushels of corn harvested.
SILAGEFARM SILAGEACRE SILAGE_TON	Number of farms in the state or county raising corn for silage, acres in corn for silage, and tons of silage produced.
SORGHMFARM SORGHMACRE SORGHM_BU	Number of farms in the state or county raising sorghum for grain or seed, acres in sorghum for grain or seed, and bushels of sorghum harvested.

WHEATFARMS WHEATACRES WHEAT_BU	Number of farms in the state or county raising wheat for grain, acres in wheat for grain, and bushels of wheat harvested.
BARLEYFARM BARLEYACRE BARLEY_BU	Number of farms in the state or county raising barley for grain, acres in barley for grain, and bushels of barley harvested.
OATSFARMS OATSACRES OATS_BU	Number of farms in the state or county raising oats for grain, acres in oats for grain, and bushels of oat grain harvested.
RICEFARMS RICEACRES RICE_CWT	Number of farms in the state or county raising rice; acres in rice; and rice harvested, in hundreds of pounds.
SUNFLWFARM SUNFLWACRE SUNFLW_LB	Number of farms in the state or county raising sunflowers for seed, acres in sunflowers for seed, and pounds of sunflower seed harvested.
COTTONFARM COTTONACRE COTTONBALE	Number of farms in the state or county raising cotton or cottonseed, acres of cotton, and bales of cotton harvested.
TOBACOFARM TOBACOACRE TOBACO_LB	Number of farms in the state or county raising tobacco, acres of tobacco, and pounds of tobacco harvested.
SOYBEANFAR SOYBEANACR SOYBEAN_BU	Number of farms in the state or county raising soybeans for beans, acres of soybeans for beans, bushels of soybeans harvested.
DRYBEANFAR DRYBEANACR DRYBEANCWT	Number of farms in the state or county raising dry edible beans (excluding dry lima beans); acres of dry edible beans (excluding dry lima beans); and dry edible beans harvested (excluding dry lima beans), in hundreds of pounds.
POTATOFARM POTATOACRE POTATO_CWT	Number of farms in the state or county raising Irish potatoes; acres of Irish potatoes; and Irish potatoes harvested, in hundreds of pounds.

SUGBEETFAR SUGBEETACR SUGBEETTON	In the state or county, number of farms raising sugar beets for sugar; acres of sugar beets for sugar; tons of sugar beets (for sugar) harvested.
SUGCANEFAR SUGCANEACR SUGCANETON	Number of farms in the state or county raising sugar cane for sugar; acres of sugar cane for sugar; tons of sugar cane (for sugar) harvested.
PINEAPLFAR PINEAPLACR PINEAPLTON	Number of farms in the state or county raising pineapples; acres of pineapples; tons of pineapples harvested.
PEANUTFARM PEANUTACRE PEANUT_LB	Number of farms in the state or county raising peanuts for nuts; acres of peanuts for nuts; pounds of peanuts (for nuts) harvested.
HAYFARMS HAYACRES HAYTONS	Number of farms in the state or county raising hay; acres of hay; tons of hay harvested. Hay includes grass silage, haylage, and green hay, alfalfa, other tame grasses, small grain, and wild grass silage.
VEGFARMS VEGACRES	Number of farms in the state or county harvesting vegetables, sweet corn, and melons for sale; acres of vegetables harvested for sale.
ORCHRDFARM ORCHRDACRE	Number of farms in the state or county with orchards; acres of orchards with produce harvested for sale.

Line attributes

Thorough definitions of these attributes are given on page 4-7.

Geographic reference attributes

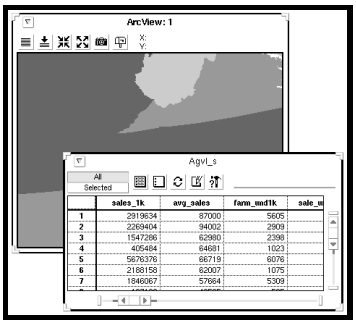
L_ST_FIPS R_ST_FIPS	The FIPS code of the states on either the left or right side of a boundary segment are contained in these attributes.
ST_NAMES	The states on either side of a boundary are identified by name in this attribute.

Classification attribute

BNDY_TYPE — Each line is classified according to boundary type. The codes are as follows:

Codes		Definitions
1	=	County boundary
2	=	State boundary
3	=	International boundary
4	=	Coastline

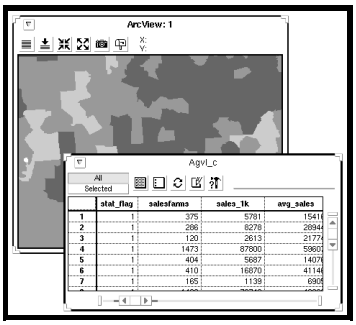
Agricultural Product Market Value



Polygons and lines for states

Layer descriptions

The state and county Agricultural Product Market Value layers contain statistical data about the market value of various agricultural products, including the number of farms reporting sales of given products and the sales value of those products. Products range from grains to cash crops, from poultry to mutton. (The previous layer, Agricultural Product Inventory, focuses on the amount of crops or the number of animals raised, but not necessarily sold.)



Polygons and lines for counties

Using the Agricultural Product Market Value coverages

Some of the attributes in these layers have the same name as attributes in the Agricultural Product Inventory layer, but contain a slightly different statistic. For example, in this layer COTTONFARM contains the number of farms that *sold* cotton in 1987; in the Agricultural Product Inventory layers, COTTONFARM contains the number of farms that *raised* cotton.

An attribute containing a negative number indicates that no data exist, or that data were suppressed, for that particular geographic unit. Lack of data may result from a number of situations, such as the suppression of information to maintain the privacy of individual farms.

Summary of Agricultural Product Market Value coverages

State coverage

		dBASE	UNIX
Coverage name and size (MB):	AGVLS	3.61	2.49

Source and currency: Cartography from Digital Line Graphs; current to 1973
Attribute data from 1987 U.S. Census of Agriculture, Table 2

Thematic attribute groups:
Geographic reference attributes (polygons and lines)
Statistical flag (polygons)
General agricultural product sales (polygons)
Sales by commodity (polygons)
Number of farms by Standard Industrial Code (SIC) (polygons)
Classification attributes (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Coterminous states plus District of Columbia	49 features represented by 1,295 polygons	92
Lines	State and international boundaries, shorelines	Represented by 1,607 lines	4

Agricultural Product Market Value

County coverage

Coverage name and size (MB):	AGVLC	dBASE 11.97	UNIX 7.81

Source and currency: Cartography from Digital Line Graphs; current to 1988
Attribute data from 1987 U.S. Census of Agriculture, Table 2

Thematic attribute groups: Same as for state-level coverage, above

Feature class	Feature	Number of features	Number of attributes
Polygons	Counties and independent cities of coterminous United States	3,111 features represented by 4,409 polygons	95
Lines	County, state, and international boundaries, shorelines	Represented by 10,485 lines	4

The polygon and line attributes described below are present in both the state and county coverages, except where specifically noted.

Polygon attributes

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

The state FIPS code, state name, and U.S. subregion can be used to select particular state or county polygons for display or study. The U.S. subregions are shown on the map in Chapter 1.

These geographic reference attributes appear only in the county-level coverages.

CNTY_FIPS
FIPS
CNTY_NAME

The county polygon coverages contain the county FIPS code, the combined state and county FIPS code, and the county name.

Statistical flag

STAT_FLAG

Flag to identify a unique polygon for each state or county. The codes are as follows:

Codes		Definitions
0	=	Other polygon
1	=	Largest polygon

General agricultural product sales

SALESFARMS

The total number of farms in the state or county that sold agricultural products.

SALES_1K
AVG_SALES

Total sales of agricultural products in the state or county, and average sales of agricultural products per farm, both in thousands of dollars.

FARM_UND1K
SALE_UND1K

F_1K_2500
S_1K_2500

F_2500_5K
S_2500_5K

FARM_5_10K
SALE_5_10K

F_10_20K
S_10_20K

F_20_25K
S_20_25K

The next twelve attribute pairs contain the number of farms in the state or county that sold products in a certain value range in 1987, and the total value of agricultural products sold by those farms in 1987 (in thousands of dollars).

For example, FARM_UND1K is the number of farms in the state or county that sold less than $1,000 worth of agricultural products; and SALE_UND1K is the total value of agricultural products sold by farms that individually sold less than $1,000 worth of produce (in thousands of dollars).

F_25_40K S_25_40K F_40_50K S_40_50K F_50_100K S_50_100K F_100_250K S_100_250K F_250_500K S_250_500K F_OVR_500K S_OVR_500K	Number of farms in the state or county that sold products in a certain value range in 1987, and the total value of agricultural products sold by those farms in 1987 (in thousands of dollars), continued.

Sales by commodity

CROPFARMS CROPSALES	Number of farms in the state or county selling crops, including nursery crops; total market value of crops and nursery crops sold, in thousands of dollars.
GRAINFARMS GRAINSALES	Number of farms in the state or county selling grains; total market value of grains sold, in thousands of dollars.
CORNFARMS CORNSALES	Number of farms in the state or county selling corn for grain or seed; total market value of corn sold for grain or seed, in thousands of dollars.
WHEATFARMS WHEATSALES	Number of farms in the state or county selling wheat for grain; total market value of wheat sold, in thousands of dollars.
SOYBEANFAR SOYBEANSAL	Number of farms in the state or county selling soybeans for beans; total market value of soybeans sold, in thousands of dollars.

SORGHMFARM SORGHMSAL	Number of farms in the state or county selling sorghum for grain or seed; total market value of sorghum sold, in thousands of dollars.
BARLEYFARM BARLEYSALE	Number of farms in the state or county selling barley for grain; total market value of barley sold, in thousands of dollars.
OATSFARMS OATSSALES	Number of farms in the state or county selling oats for grain; total market value of oats sold, in thousands of dollars.
OTHGRNFARM OTHGRNSALE	Number of farms in the state or county selling other grain crops; total market value of other grain crops sold, in thousands of dollars.
COTTONFARM COTTONSALE	Number of farms in the state or county selling cotton and cottonseed; total market value of cotton and cottonseed sold, in thousands of dollars.
TOBACOFARM TOBACOSALE	Number of farms in the state or county selling tobacco; total market value of tobacco sold, in thousands of dollars.
HAYSILGFAR HAYSILGSAL	Number of farms in the state or county selling hay; total market value of hay sold, in thousands of dollars. Hay includes grass silage, haylage, and green hay, alfalfa, other tame grasses, small grain, and wild grass silage.
VEGFARMS VEGSALES	Number of farms in the state or county selling vegetables, sweet corn, and melons; total market value of vegetables, sweet corn, and melons sold, in thousands of dollars.
FRUITNUTFA FRUITNUTSA	Number of farms in the state or county selling fruits, nuts, and berries; total market value of fruits, nuts, and berries sold, in thousands of dollars.
NURSRYFARM NURSRYSALE	Number of farms in the state or county selling nursery and greenhouse crops; total market value of nursery and greenhouse crops sold, in thousands of dollars.

OTHCROPFAR OTHCROPSAL	Number of farms in the state or county selling other crops; total market value of other crops sold, in thousands of dollars.
LVSTPOUL_F LVSTPOUL_S	Number of farms in the state or county selling livestock, poultry, and related products; total market value of livestock, poultry, and related products sold, in thousands of dollars.
POULTRYFAR POULTRYSAL	Number of farms in the state or county selling poultry and poultry products; total market value of poultry and poultry products sold, in thousands of dollars.
DAIRYFARMS DAIRYSALES	Number of farms in the state or county selling dairy products; total market value of dairy products sold, in thousands of dollars.
CATTLEFARM CATTLESALE	Number of farms in the state or county selling cattle and calves; total market value of cattle and calves sold, in thousands of dollars.
HOGFARMS HOGSALES	Number of farms in the state or county selling hogs and pigs; total market value of hogs and pigs sold, in thousands of dollars.
SHEEPFARMS SHPWOOLSAL	Number of farms in the state or county selling sheep, lambs, and wool; total market value of sheep, lambs, and wool sold, in thousands of dollars.
OTHLVSTFAR OTHLVSTSAL	Number of farms in the state or county selling other livestock and products; total market value of other livestock and products sold, in thousands of dollars.

Number of farms by Standard Industrial Code (SIC)

Farms in SIC for:

SICCASHGRN	Cash grains (SIC 011). Includes wheat, rice, corn, soybeans, barley, buckwheat, cowpeas, dry field and seed beans and peas, emmer field seeds, flaxseed, lentils, mustard seed, oats, popcorn, rye, safflower, sorghum, and other small grains.
SICFLDCROP	Field crops other than cash grains (SIC 013).
SICCOTTON	Cotton and cottonseed (SIC 0131).
SICTOBACCO	Tobacco (SIC 0132).
SICOTHFLD	Other field crops (SIC 0133, 0134, 0139). Includes sugar cane, sugar beets, Irish potatoes, alfalfa, broomcorn, clover, flax, hay, hops, mint, peanuts, sweet potatoes, and timothy.
SICVEG	Vegetables and melons (SIC 016).
SICFRTNUT	Fruits and tree nuts (SIC 017). Includes berries, grapes, tree nuts, citrus fruits, deciduous tree fruits, avocados, dates, figs, olives, pineapples, and tropical fruit.
SICHORTSP	Horticultural specialties (SIC 018). Includes ornamental plants; nursery products, such as bulbs, florists' greens, flowers, shrubbery, flower and vegetable seeds and plants, and sod; mushrooms and vegetables grown under cover.
SICGENCROP	General farms that primarily raise crops (SIC 019). Includes crop farms where less than 50% of sales came from any single three-digit industry group.
SICLVSTOCK	Livestock, except specialties (SIC 021). Includes cattle, calves, hogs, sheep, goats, goat's milk, wool, and mohair.
SICBEEF	Beef cattle, except feedlots (SIC 0212).

SICDAIRY — Dairy (SIC 024). Includes production of cow's milk and other dairy products, and raising of dairy heifer replacements.

SICPOULTRY — Poultry and eggs (SIC 025). Includes chickens, chicken eggs, turkeys, duck, geese, pheasants, pigeons, and quail.

SICANIMLSP — Animal specialties (SIC 027). Includes fur-bearing animals, rabbits, horses, ponies, bees, fish in captivity (except those in fish hatcheries), worms, and laboratory animals.

SICGENLVST — General farms that primarily focus on special livestock (SIC 029). Includes livestock farms where less than 50% of sales came from any single three-digit industry group.

Line attributes

Thorough definitions of these attributes are given on page 4-7.

Geographic reference attributes

L_ST_FIPS
R_ST_FIPS — The FIPS code of the states on either the left or right side of a boundary segment are contained in these attributes.

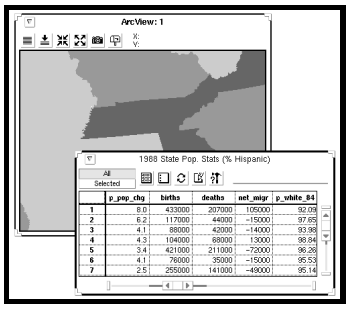
ST_NAMES — The states on either side of a boundary are identified by name in this attribute.

Classification attribute

BNDY_TYPE — Each line is classified according to boundary type. The codes are as follows:

Codes		Definitions
1	=	County boundary
2	=	State boundary
3	=	International boundary
4	=	Coastline

Demographic and Health Attributes



Polygons and lines for states

Layer descriptions

The Demographic and Health Attributes layers contain detailed total population counts and vital statistics data for states and counties. Also, important health indicators are provided. These layers include some racial data but emphasize the total population dynamics for the geographic units represented.

Polygons and lines for counties

Using the Census coverages from the *County and City Data Book*

Attribute dates. Coverages containing Demographic and Health Attributes, Government and Financial Attributes, and Socioeconomic Attributes contain U.S. Bureau of the Census data published in 1988. Note that even though these data were published in the same year, they do not all apply to the same year. For example, some data are for 1986, some are for 1984, and still other data cover a range of years, such as 1980 to 1986. This variety in dates should be considered when making data comparisons.

Zero values. For some of the attributes in these *County and City Data Book* layers, a zero value may represent something other than a measurement of zero. It may represent an approximate value of zero (measurements of greater than zero but less than half the measurement unit, like less than half a hectare, were rounded down to zero). However, a zero entry may also mean that data were unavailable, that the actual value was suppressed by the Census Bureau for reasons of confidentiality or publication standards, or that the measurement did not apply to that political unit.

Summary of Demographic and Health Attributes coverages

State coverage

		dBASE	UNIX
Coverage name and size (MB):	POP88S	2.36	1.82

Source and currency: Cartography from Digital Line Graphs; current to 1973
Attribute data from U.S. Census Bureau, *County and City Data Book*, 1988

Thematic attribute groups:
Geographic reference attributes (polygons and lines)
Statistical flag (polygons)
Demographic attributes (polygons)
Vital statistics (polygons)
Health attributes (polygons)
Classification attributes (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Coterminous states plus District of Columbia	49 features represented by 1,295 polygons	48
Lines	State and international boundaries, shorelines	Represented by 1,607 lines	4

A zero in a group of closely related attributes often shares the same meaning. For example, in all nine population age group attributes in the county-level data (P_UNDER_5, etc.), a zero indicates that the actual value has been suppressed because the data did not meet publication standards. Zeros representing suppressed data constitute 35% of each of the nine population age group attributes (the largest percentage of this type of data in the database). The second highest instance, again for county-level data, is for the attributes for new private housing units authorized by permit (PERMITS_86, etc.), where zeros occur in 19% of the entries. County-level crime-occurrence-related items have the third highest percentage (VIOLENT_CR, SERIOUS_CR), with 4% of the data represented by zero entries indicating that data were unavailable.

County coverage

		dBASE	UNIX
Coverage name and size (MB):	POP88C	7.91	5.67

Source and currency: Cartography from Digital Line Graphs; current to 1988
Attribute data from U.S. Census Bureau, *County and City Data Book*, 1988

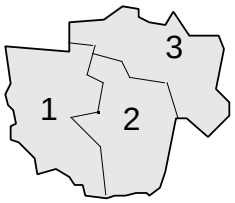
Thematic attribute groups: Metropolitan area attributes (polygons)
County land area (polygons)
Plus, the attribute groups listed for states (above)

Feature class	Feature	Number of features	Number of attributes
Polygons	Counties and independent cities of coterminous United States	3,111 features represented by 4,409 polygons	55
Lines	County, state, and international boundaries, shorelines	Represented by 10,485 lines	4

Those sixty attributes for which zero indicates something other than a measurement of zero are marked with an asterisk in the attribute listings.

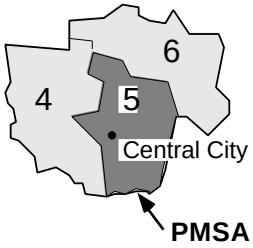
Attributes for metropolitan areas. The county-level coverages from the *County and City Data Book* contain three attributes that identify metropolitan counties. The first attribute, county type (CNTY_TYPE), identifies whether a county is considered a Primary Metropolitan Statistical Area (PMSA), part of a Consolidated Metropolitan Statistical Area (CMSA), part of a Metropolitan Statistical Area (MSA), part of a New England County Metropolitan Area (NECMA), or none of the above. The other two attributes, MET-ST-AR and PR_MT_ST_A, contain the four-digit FIPS codes for metropolitan areas.

Relationship between MSAs, PMSAs, and CMSAs



MSA

Metropolitan Statistical Area (MSA)
This MSA is composed of counties 1, 2, and 3.



CMSA

Primary Metropolitan Statistical Area (PMSA)
County 5 contains a "Central City" of more than 100,000 population, so is considered a PMSA.

Consolidated Metropolitan Statistica Area (CMSA)
This CMSA is composed of counties 4, 5, and 6. A CMSA always includes at least one PMSA.

U.S. Bureau of the Census publications should be consulted for complete information on how these areas are defined. In general, though, these areas can be defined as follows:

- Metropolitan Statistical Areas are composed of one or more counties that are considered to be metropolitan in nature by the U.S. Bureau of the Census. All cities in MSA counties have populations smaller than 100,000. In New England, MSAs may be composed of partial county units where counties are divided along city and town lines.

- Primary Metropolitan Statistical Areas are counties that contain at least one city of 100,000 or more people. A PMSA is always considered to be part of a CMSA as well.

- Consolidated Metropolitan Statistical Areas are composed of one or more counties that are considered to be metropolitan in nature, and that include at least one city of 100,000 population.

- New England County Metropolitan Areas apply to the six New England States (Maine, New Hampshire, Vermont, Massachusetts, Connecticut, and Rhode Island). Because MSAs in New England may be composed of partial county units, NECMAs were created in order to define the same metropolitan areas based on entire counties.

When you use ArcUSA data to compare New England metropolitan areas with metropolitan areas in other states, it is recommended that you select NECMA counties for the New England states and MSA counties elsewhere. This is because in CNTY_TYPE, a New England county that is part of a NECMA is classified as a NECMA county even if it also is part of an MSA. If all or part of a New England county belongs to an MSA but *not* to a NECMA, it is classified as an MSA county. As a result, a selection of MSA counties in New England will result in a set of seven "fringe" counties rather than complete MSAs.

The attribute MET_ST_AR contains the FIPS code for the MSA or CMSA to which a metropolitan county belongs. This attribute is blank for counties that are not included in an MSA or CMSA, and for MSA counties in New England. If a county is also considered a Primary Metropolitan Statistical Area, the attribute PR_MT_ST_A contains the PMSA FIPS code. A complete listing of metropolitan areas and their FIPS codes is given in Appendix C.

Using the Demographic and Health Attributes coverages

These coverages can be used to explore recent population changes at the county and state levels. Information about migration, births, deaths, and other vital statistics is

contained here. Also, broad health indicators, such as the number of doctors and health care facilities by state and county, can be found in these coverages. In conjunction with the Socioeconomic Attributes coverages, relationships between population change components and social and economic indicators, such as crime occurrence or percentage of unemployment, can be analyzed.

The polygon and line attributes described below are present in both the state and county coverages, except where specifically noted.

Polygon attributes

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

The state FIPS code, state name, and U.S. subregion can be used to select particular state or county polygons for display or study. The U.S. subregions are shown on the map in Chapter 1.

These geographic reference attributes appear only in the county-level coverages.

CNTY_FIPS
FIPS
CNTY_NAME

The county polygon coverages contain the county FIPS code, the combined state and county FIPS code, and the county name.

Statistical flag

STAT_FLAG

Flag to identify a unique polygon for each state or county. The codes are as follows:

Codes		Definitions
0	=	Other polygon
1	=	Largest polygon

Metropolitan area attributes

These attributes appear only in the county-level coverages.

CNTY_TYPE — This attribute allows the user to select counties according to census geography. The metropolitan area terms are explained on page 4-91. The codes are as follows:

- County within a CMSA/PMSA
- County within an MSA
- County within an NECMA
- County not in a metro area

MET_ST_AR — Metropolitan Statistical Area (MSA) or Consolidated MSA (CMSA) FIPS code. This attribute is blank for counties that are not included in an MSA or CMSA, and for MSA counties in New England.

PR_MT_ST_A — Primary Metropolitan Statistical Area (PMSA) FIPS code. In general, a PMSA is a county that contains a city of over 100,000 population.

County land area

This attribute appears only in the county-level coverages.

*LAND_AREA — The land area of the county in 1980. Land area excludes the areas of water bodies. The value in this item is measured in square miles.

Demographic attributes

*POP1986 — Total population for the state or county, estimated for 1986.

*POP_RANK — Rank of state or county by 1986 population.

POP_SQMILE — State or county population per square mile, for 1986.

POP1980CR — Corrected state or county population for 1980.

POP_CHG	Net population change from 1980 to 1986 for the state or county. A negative value means that the population was smaller in 1986 than in 1980.
P_POP_CHG	Percentage population change from 1980 to 1986 for the state or county. A negative value means that the population was smaller in 1986 than in 1980.
BIRTHS	Number of births in the state or county during the years 1980 through 1986.
DEATHS	Number of deaths in the state or county during the years 1980 through 1986.
NET_MIGR	Net migration from 1980 to 1986 for the state or county. This value represents the difference between the number of persons moving into an area and the number of persons moving away from the area. A negative value indicates net outmigration from the area.
*P_WHITE_84	Percentage of the total population for the state or county identified as white in 1984.
*P_BLK_OTH	Percentage of the total population for the state or county identified as being black or of a race other than white in 1984.
MALE_100F	Number of males per 100 females in the state or county, in 1984.
*P_UNDER_5 *P_5_14 *P_15_24 *P_25_34 *P_35_44 *P_45_54 *P_55_64 *P_65_74 *P_OVER_74	Percentage of the state or county population between a given age range in 1984. For example, P_5_14 is the percentage of population between 5 and 14 years of age.

*POP1984	Total state or county population in 1984. This value was used to compute 1984 race and age population percentages.
P_AMERIND	Percentage of state or county population identified as American Indian, Eskimo, and Aleut in 1980.
P_ASIAN	Percentage of state or county population of Asian and Pacific Island origin in 1980.
P_HISPANIC	Percentage of state or county population of Hispanic origin in 1980.
POP1980	Total state or county population in 1980. This value was used to compute 1980 population percentages for race and Hispanic origin.

Vital statistics

BIRTHS_84	Number of births in the state or county during 1984.
P_BIR_TEEN	Percentage of total births to mothers under 20 years old in the state or county, in 1984.
BIR_1KPOP	Number of births per 1,000 persons in the state or county, in 1984.
DEATHS_84	Number of deaths in 1984 in the state or county.
INFANT_DTH	Number of infant deaths in the state or county in 1984. Figures for infant deaths include deaths of children under one year of age; they exclude fetal deaths.
DEATH1KPOP	Number of deaths per 1,000 persons in the state or county, in 1984.
INF_DTH_1K	Number of infant deaths per 1,000 live births in the state or county, in 1984.

*MARRIAGES *MARRIAG_1K	Number of marriages and number of marriages per 1,000 people in the state or county, in 1984.
*DIVORCES *DIVORC_1K	Number of divorces and number of divorces per 1,000 people in the state or county, in 1984.

Health attributes

*DOCTORS *DOCT_100K	Number of physicians and number of physicians per 100,000 people in the state or county in 1985. The figures include active, nonfederal physicians, and are based on information maintained by the American Medical Association (AMA) about members and nonmembers of the AMA and graduates of foreign medical schools who are in the United States and meet U.S. educational standards for physicians.
HOSPITALS	Number of hospitals in the state or county in 1985. A hospital is defined as a facility with at least six beds that is licensed by the state as a hospital, or that is operated as a hospital by a federal or state agency and is therefore not subject to state and local licensing laws. The data cover hospitals of all types.
HOSP_BEDS HBEDS_1000	Number of hospital beds and number of hospital beds per 1,000 people in the state or county in 1985. Hospital beds comprise beds, cribs, and pediatric bassinets regularly set up and staffed for use of inpatients. They exclude newborn infant bassinets.
NURSEHOMES	Number of nursing homes in the state or county, and number of nursing home beds in 1986. Homes with fewer than three beds are not counted.

Line attributes

Thorough definitions of these attributes are given on page 4-7.

Geographic reference attributes

L_ST_FIPS
R_ST_FIPS

The FIPS code of the states on either the left or right side of a boundary segment are contained in these attributes.

ST_NAMES

The states on either side of a boundary are identified by name in this attribute.

Classification attribute

BNDY_TYPE

Each line is classified according to boundary type. The codes are as follows:

Codes		Definitions
1	=	County boundary
2	=	State boundary
3	=	International boundary
4	=	Coastline

Environmental Attributes

Polygons and lines for counties

Layer description

The Environmental Attributes layer contains a variety of attributes related to soils (land capability and soil taxonomy) as well as land use and surface mining attributes. All of the environmental attributes are summarized by county.

Using the Environmental Attributes coverages

Since these data are organized by county, and usually by percentage of county area, only general patterns about individual attributes are discernible. For example, selecting the attribute for "percent aridisols" and displaying the data on a choroplethic map will show a general distribution area in the western United States but will not indicate exact soil boundaries.

Summary of the Environmental Attributes coverage

County coverage

Coverage name and size (MB):		dBASE	UNIX
	ENVIR	8.33	5.74

Source and currency: Cartography from Digital Line Graphs; current to 1988.
Attribute data from Oak Ridge National Laboratory, GeoEcology Database.
Most of the statistics included here were derived from the Conservation Needs Inventory (CNI) compiled in 1967. Data on surface mining date from 1975.

Thematic attribute groups:
Geographic reference attributes (polygons and lines)
Statistical flag (polygons)
Land area and land use (polygons)
Land capability (polygons)
Land surface mining (polygons)
Soil order classification (polygons)
Classification attributes (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Counties and independent cities of coterminous United States	3,111 features represented by 4,409 polygons	63
Lines	County, state, and international boundaries, shorelines	Represented by 10,485 lines	4

Polygon attributes

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION
CNTY_FIPS
FIPS
CNTY_NAME

The state and county FIPS codes, state and county names, and U.S. subregion can be used to select particular state or county polygons for display or study. The U.S. subregions are shown on a map in Chapter 1.

Statistical flag

STAT_FLAG

Flag to identify a unique polygon for each county or county equivalent. The codes are as follows:

Codes		Definitions
0	=	Other polygon
1	=	Largest polygon

Land area and land use

CNTY_AREA

Total surface area of the county, 1977, measured in hectares.

CNTY_FED
P_CNTY_FED

Total federal land area in the county (in hectares) and percentage of county area in federal land, in 1977. Percentage is computed by dividing CNTY_FED by CNTY_AREA.

CNTY_LND

Land area of the county (water area excluded), 1977, in hectares.

FED_R_LD
P_FED_R_LD

Federal land area considered rural (in hectares) and percentage of the county land area in rural federal land, in 1977. Percentage is computed by dividing FED_R_LD by CNTY_AREA.

NFD_R_LD
P_NFD_R_LD

Nonfederal land in rural land use (in hectares) and percentage of nonfederal land in rural land use, in 1977. Percentage is computed by dividing NFD_R_LD by CNTY_AREA.

RUR_LND
P_RUR_LND

Total county land area (federal and nonfederal) in rural land use (in hectares) and percentage of county land area considered rural, in 1977. Percentage is computed by dividing RUR_LND by CNTY_AREA.

URB_LND
P_URB_LND

Total county land area (federal and nonfederal) in urban land use (in hectares) and percentage of county land area considered urban, in 1977. Percentage is computed by dividing URB_LND by CNTY_AREA.

WATER
P_WATER

Water area of the county (in hectares) and percentage of the county area covered by water, in 1977. Percentage is computed by dividing WATER by CNTY_AREA.

Land capability

These attributes contain the nonfederal land area (in hectares) and percentage of the county area in soils with certain characteristics. Percentages are calculated by dividing the soil area by CNTY_AREA.

SOILS_OK
P_SOILS_OK

Soils with few limitations restricting land use.

SL_SMLTS
P_SL_SMLTS

Soils with some limitations restricting land use. These soils are generally capable of producing cultivated crops. Limitations may include dryness, high erosion potential, shallowness, salinity, low fertility, or excess water.

SL_SVLTS
P_SL_SVLTS

Soils with severe limitations restricting land use. These soils are generally capable of producing cultivated crops. Limitations may include dryness, high erosion potential, shallowness, salinity, low fertility, or excess water.

SL_VSLTS P_SL_VSLTS	Soils with very severe limitations restricting land use. These soils are generally capable of producing cultivated crops. Limitations may include dryness, high erosion potential, shallowness, salinity, low fertility, or excess water.
SL_WET P_SL_WET	Soils that are generally level, but wet or stony. These soils are generally capable of sustaining managed natural vegetation. Other limitations may include dryness (for stony soils), high erosion potential, shallowness, salinity, or low fertility.
SL_RANGE P_SL_RANGE	Soils that are suitable for rangeland, forest, or other managed natural vegetation. These soils are generally capable of sustaining managed natural vegetation. Limitations may include dryness, wetness, high erosion potential, shallowness, salinity, or low fertility.
SL_WILD P_SL_WILD	Soils most suitable for forest or wildlife habitat. Generally, these soils are not appropriate for cultivated crops or managed natural vegetation. Limitations may include dryness, high erosion potential, shallowness, salinity, low fertility, or excess water.
SL_NO_AG P_SL_NO_AG	Soils where cultivation is precluded.

Land surface mining

DIST_LND P_DIST_LND	Total land area (in hectares) and percentage of county land area disturbed by surface mining activities (coal, sand/gravel, and other), as of 1975.
COAL_MNS P_COAL_MNS	Land area (in hectares) and percentage of county land area disturbed by activities related to surface mining for coal, as of 1975.

SAND_EXT
P_SAND_EXT

Land area (in hectares) and percentage of county land area disturbed by activities related to extraction of sand and gravel, as of 1975.

OTH_MINE
P_OTH_MINE

Land area (in hectares) and percentage of county land area disturbed by activities related to surface mining for materials other than coal, sand, or gravel, as of 1975.

Soil order classification

Land area (in hectares) and percentage of the county area in certain soil orders. Percentages are calculated by dividing the soil area by CNTY_AREA.

ALFISOL
P_ALFISOL

Soil order "alfisol." Alfisols are fertile soils that develop in humid regions. They are typically highly productive for agriculture.

ARIDISOL
P_ARIDISOL

Soil order "aridisol." Aridisols develop in desert environments. They are poor in organic matter and have a high salt content.

ENTISOL
P_ENTISOL

Soil order "entisol." These soils are fertile and are found in many different climates. Entisols are characterized by a lack of horizons (layers) because they are of recent origin.

HISTOSOL
P_HISTOSOL

Soil order "histosol." Histosols develop in poorly drained areas such as peat bogs, and they are rich in organic matter.

INCEPTSL
P_INCEPTSL

Soil order "inceptisol." Inceptisols are very young soils that are just beginning to form. They are commonly found in tundra areas.

MOLLISOL
P_MOLLISOL

Soil order "mollisol." These dark soils are rich in organic matter and are very productive for agriculture. Mollisols typically develop in grasslands, such as the Great Plains.

SPODOSOL
P_SPODOSOL

Soil order "spodosol." Spodosols are commonly found in cool, humid forest areas. They are acidic and not very fertile.

ULTISOL
P_ULTISOL

Soil order "ultisol." Ultisols are commonly found in warm, humid areas such as the southeastern United States. They are weathered, acidic, and typically red or yellow. Ultisols can be productive for agriculture when treated with lime and fertilizers.

VERTISOL
P_VERTISOL

Soil order "vertisol." Vertisols are rich in clay and form cracks when they become dry.

Line attributes

Geographic reference attributes

L_ST_FIPS
R_ST_FIPS

The FIPS code of the states on the left and right sides of a boundary segment.

ST_NAMES

The states on either side of a boundary are identified by name in this attribute.

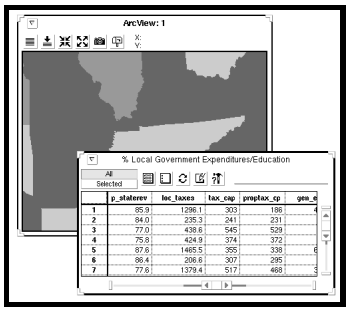
Classification attribute

BNDY_TYPE

The type of boundary the line represents. The codes are as follows:

Codes		Definitions
1	=	County boundary
2	=	State boundary
3	=	International boundary
4	=	Coastline

Government and Financial Attributes



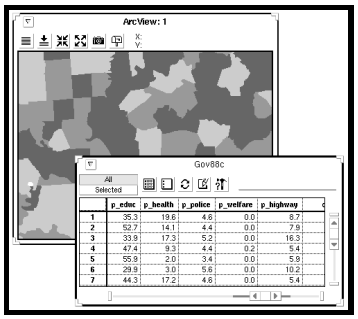
Pol ygons and lines for states

Layer descriptions

These layers contain attributes pertaining to local government financing and employment. Local governments include county, municipal, town, and township governments; data for these entities are summarized to the county and state levels. Some national election data are also included in these layers.

Using the Government and Financial Attributes coverages

Information about using these coverages and the other coverages that contain attributes from the *County and City Data Book* is explained on pages 4-88 through 4-90.



Polygons and lines for counties

State and county information in these coverages represents a summary of the data for municipal, county, town, and township government figures. In other words, the value for "local government general revenue" (LOC_GEN_RV) in a county coverage represents the county revenue *plus* revenue of towns and cities within the county. In a state coverage, LOC_GEN_RV represents the summary of the county and municipal government data for the whole state. It does *not* represent the general revenue of the state government.

Summary of Government and Financial Attributes coverages

State coverage

		dBASE	UNIX
Coverage name and size (MB):	GOV88S	2.13	1.74

Source and currency: Cartography from Digital Line Graphs; current to 1973
Attribute data from U.S. Census Bureau, *County and City Data Book*, 1988

Thematic attribute groups:
Geographic reference attributes (polygons and lines)
Statistical flag (polygons)
County land area (polygons)
Federal funds and grants (polygons)
Local government finance (polygons)
Local government employment (polygons)
Elections (polygons)
Classification attributes (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Coterminous states plus District of Columbia	49 features represented by 1,295 polygons	34
Lines	State and international boundaries, shorelines	Represented by 1,607 lines	4

County coverage

		dBASE	UNIX
Coverage name and size (MB):	GOV88C	7.12	5.43

Source and currency: Cartography from Digital Line Graphs; current to 1988
Attribute data from U.S. Census Bureau, *County and City Data Book*, 1988

Thematic attribute groups: Metropolitan area attributes (polygons)
County land area (polygons)
Plus, the attribute groups listed for states (above)

Feature class	Feature	Number of features	Number of attributes
Polygons	Counties and independent cities of coterminous United States	3,111 features represented by 4,409 polygons	41
Lines	County, state, and international boundaries, shorelines	Represented by 10,485 lines	4

The polygon and line attributes described below are present in both the state and county coverages, except where specifically noted otherwise.

Polygon attributes

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

The state FIPS code, state name, and U.S. subregion can be used to select particular state or county polygons for display or study. The U.S. subregions are shown on the map in Chapter 1.

These geographic reference attributes appear only in the county-level coverages.

CNTY_FIPS
FIPS
CNTY_NAME

The county polygon coverages contain the county FIPS code, the combined state and county FIPS code, and the county name.

Statistical flag

STAT_FLAG

Flag to identify a unique polygon for each state or county. The codes are as follows:

Codes		Definitions
0	=	Other polygon
1	=	Largest polygon

Metropolitan area attributes

These attributes appear only in the county-level coverages.

CNTY_TYPE

This attribute allows the user to select counties according to census geography. The metropolitan area terms are explained on page 4-88. The codes are as follows:

- County within a CMSA/PMSA
- County within an MSA
- County within an NECMA
- County not in a metro area

MET_ST_AR

Metropolitan Statistical Area (MSA) or Consolidated MSA (CMSA) FIPS code. This attribute is blank for counties that are not included in an MSA or CMSA, and for MSA counties in New England.

PR_MT_ST_A

Primary Metropolitan Statistical Area (PMSA) FIPS code. In general, a PMSA is a county that contains a city of over 100,000 population.

County land area

This attribute appears only in the county-level coverages.

*LAND_AREA	The land area of the county in 1980. Land area excludes the areas of water bodies. The value in this item is measured in square miles.

Federal funds and grants

FEDFUNDGRT	Federal funds and grants to local governments within a state or county, for 1986, in millions of dollars.
P_CHG_FNGR	Percent change in federal funds and grants to local governments within a state or county, from 1985 to 1986.
FNDGRT_CAP	Federal funds and grants to local governments or other organizations within a county, summarized to the county or state level. Figures are for 1986, in dollars per capita.
DIRPAY_CAP	Direct payment of federal funds for individuals (e.g., retirement and disability benefits), summarized to the county or state level. Figures are for 1986, in dollars per capita.
AWARDS_CAP	Federal procurement contract awards to organizations within a county, summarized to the county or state level. Figures are for 1986, in dollars per capita.
FWAGES_CAP	Federal funds for salaries and wages, summarized to the county or state level. Figures are for 1986, in dollars per capita.
GRANTS_CAP	Federal grants awarded to local governments or other organizations within a county, summarized to the county or state level. Figures are for 1986, in dollars per capita.

Local government finance

All quantities are for 1981–1982.

*LOC_GEN_RV	Local government general revenue, in millions of dollars, summarized to the state and county levels.
*INTER_GVT	Local government intergovernmental revenue, in millions of dollars, summarized to the state and county levels.
*P_STATEREV	Percentage of local government intergovernmental revenue that came from the state, summarized to the state and county levels.
*LOC_TAXES TAX_CAP	Local government taxes within a state or county; in millions of dollars, and in dollars per capita.
*PROPTAX_CP	Local government property taxes within a state or county, in dollars per capita.
*GEN_EXP	Local government direct general expenditures, in millions of dollars, summarized to the state and county levels.
*P_CHG_EXP	Percentage of change in local government direct general expenditures from 1977 to 1982, for local governments within a state or county.
*GEN_EXP_CP	Local government direct general expenditures, in dollars per capita, summarized to the state and county levels.
	Percentage of 1981–1982 local government expenditures, averaged to the state and county levels, for the following:
*P_EDUC	Education.
*P_HEALTH	Health and hospitals.
*P_POLICE	Police protection.

*P_WELFARE — Public welfare.

*P_HIGHWAY — Highways.

*DEBT
*DEBT_CAP — Outstanding local government debt for 1981–82, for local governments within a state or county; in millions of dollars, and in dollars per capita.

Local government employment

*LOCGVT_EMP
*LG_EMP_10K — Local government employment, and local government employment per 10,000 population; as of October 1982.

*FEDCIV_EMP
FEDCV_EARN — Federal government civilian employment, and federal government civilian employee earnings, in thousands of dollars; 1984.

Elections

For the 1984 presidential election:

*PRESVOTE84
*P_VTE_LEAD — Total vote cast for President in the state or county; percentage of the total vote cast that was for the party that had a majority or plurality.

*LEAD_PARTY — The leading party (the party for which the percentage is given in P_VTE_LEAD). The codes are as follows:

Codes	Definitions
1=	Democratic
2=	Republican

Line attributes

Thorough definitions of these attributes are given on page 4-7.

Geographic reference attributes

L_ST_FIPS
R_ST_FIPS

The FIPS code of the states on either the left or right side of a boundary segment are contained in these attributes.

ST_NAMES

The states on either side of a boundary are identified by name in this attribute.

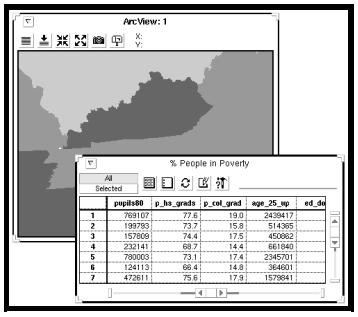
Classification attribute

BNDY_TYPE

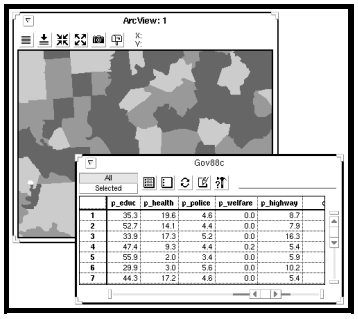
Each line is classified according to boundary type. The codes are as follows:

Codes		Definitions
1	=	County boundary
2	=	State boundary
3	=	International boundary
4	=	Coastline

Socio-economic Attributes



Polygons and lines for states



Polygons and lines for counties

Layer descriptions

These layers contain attributes describing households, family structure, education, and income. Other population attributes include the incidence of certain crimes and labor force participation. Also included in these layers are housing characteristics. These attributes are reported for both states and counties.

Using the Socioeconomic Attributes coverages

Information about using these coverages and the other coverages containing attributes from the *County and City Data Book* is explained on pages 4-89 through 4-93.

The Socioeconomic Attributes coverages can be used to compare U.S. counties or regions according to broad socioeconomic indicators such as percentage of households with female family householders, Social Security recipients per 1,000 population, violent crime, college graduates, and median household income. Limited time-series analysis can be done using some attributes, such as percent change in number of households between 1980 and 1985. Other attributes provide statistics for a single year.

Summary of Socioeconomic Attributes coverages

State coverage

		dBASE	UNIX
Coverage name and size (MB):	SOC88S	1.00	1.82

Source and currency: Cartography from Digital Line Graphs; current to 1973
Attribute data from U.S. Census Bureau, *County and City Data Book*, 1988

Thematic attribute groups:
Geographic reference attributes (polygons and lines)
County land area (polygons)
Households (polygons)
Social Security (polygons)
Education (polygons)
Income (polygons)
Housing and construction (polygons)
Labor force attributes (polygons)
Classification attributes (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Coterminous states plus District of Columbia	49 features represented by 1,295 polygons	47
Lines	State and international boundaries, shorelines	Represented by 1,607 lines	4

County coverage

		dBASE	UNIX
Coverage name and size (MB):	SOC88C	7.80	5.67

Source and currency: Cartography from Digital Line Graphs; current to 1988
Attribute data from U.S. Census Bureau, *County and City Data Book*, 1988

Thematic attribute groups: Metropolitan area attributes (polygons)
County land area (polygons)
Plus, the attribute groups listed for states (above)

Feature class	Feature	Number of features	Number of attributes
Polygons	Counties and independent cities of coterminous United States	3,111 features represented by 4,409 polygons	54
Lines	County, state, and international boundaries, shorelines	Represented by 10,485 lines	4

The polygon and line attributes described below are present in both the state and the county coverages, except where specifically noted.

Polygon attributes

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

The state FIPS code, state name, and U.S. subregion can be used to select particular state or county polygons for display or study. The U.S. subregions are shown on the map in Chapter 1.

These geographic reference attributes appear only in the county-level coverages.

CNTY_FIPS
FIPS
CNTY_NAME

The county polygon coverages contain the county FIPS code, the combined state and county FIPS code, and the county name.

Statistical flag

STAT_FLAG

Flag to identify a unique polygon for each state or county. The codes are as follows:

Codes		Definitions
0	=	Other polygon
1	=	Largest polygon

Metropolitan area attributes

These attributes appear only in the county-level coverages.

CNTY_TYPE

This attribute allows the user to select counties according to census geography. The metropolitan area terms are explained on page 4-91. The codes are as follows:

- County within a CMSA/PMSA
- County within an MSA
- County within an NECMA
- County not in a metro area

MET_ST_AR

Metropolitan Statistical Area (MSA) or Consolidated MSA (CMSA) FIPS code. This attribute is blank for counties that are not included in an MSA or CMSA, and for MSA counties in New England.

PR_MT_ST_A

Primary Metropolitan Statistical Area (PMSA) FIPS code. In general, a PMSA is a county that contains a city of over 100,000 population.

County land area

This attribute appears only in the county-level coverages.

*LAND_AREA	The land area of the county in 1980. Land area excludes the areas of water bodies. The value in this item is measured in square miles.

Households

HSEHOLD_85	Number of households in the state or county, in 1985.
P_CHG_HHLD	The percentage of change in the number of households in the state or county between 1980 and 1985.
PERS_HHLD	Average number of people per household in the state or county, in 1985.
HSEHOLD_80	Number of households in the state or county in 1980.
P_FEM_HHLD	Percentage of households with a female family householder in the state or county, in 1980.
P_1PER_HH	Percentage of all households that were comprised of one person in the state or county, in 1980.

Social Security

*SSEC_RECIP	The number of Social Security beneficiaries in the state or county, in 1985. This figure includes retired and disabled workers and their dependents, and survivors of insured workers who receive monthly benefits under the Social Security program.
*SSRECIP_1K	The number of Social Security beneficiaries per 1,000 population in the state or county, in 1985.
*SSPAYMT_1K	Social Security payments to people in the state or county, in thousands of dollars; 1985.

*SUPP_RECIP	Supplemental Security Income program recipients in the state or county, in June 1986. This program provides cash payments to persons with limited income and resources who are aged, blind, or disabled.

Crime

*SERIOUS_CR	Serious crimes known to police in 1985, for states and counties. The seven serious crimes included in this figure are as follows: • Murder and nonnegligent manslaughter (includes deaths caused by negligence, suicide, or accident; justifiable homicide; and attempted murder) • Forcible rape—excludes statutory rape • Robbery • Aggravated assault • Burglary • Larceny–theft • Motor vehicle theft
*VIOLENT_CR	Violent crimes known to police in 1985, for states and counties. The first four serious crimes listed above are considered to be violent crimes.
*SR_CR_100K	Serious crimes known to police per 100,000 population, by state and county, in 1985.

Education

*PUPILS86	Public school enrollment for 1986–1987, by state and county.
PUPILS80	Public school enrollment in 1980, by state and county.
P_HS_GRADS	Percentage of people in the state or county who were 25 years of age and older with 12 years or more education in 1980.

P_COL_GRAD	Percentage of people in the state or county who were 25 years of age and older with 16 years or more education in 1980.
AGE_25_UP	Number of people in the state or county who were aged 25 years and older in 1980. This figure was used to compute P_HS_GRADS and P_COL_GRAD.
*ED_DOL_1M ED_DOL_CAP	Local government expenditures for education in 1982, summarized for states and counties, in millions of dollars, and in dollars per capita.

Income

INC_CAP_85	Money income per capita in 1985, by state and county.
RNK_INCCAP	State or county rank by money income per capita in 1985.
INC_CAP_79	Money income per capita in 1979, in current dollars (i.e., 1979 dollars), by state and county.
INC_CNST79	Money income per capita in 1979, in constant dollars (i.e., 1967 dollars), by state and county. This figure is computed using the Consumer Price Index. The index for the base year, 1967, equals 100; the index for 1979 equals 217.4.
MED_INC_79	Median household income by state and county for 1979.
P_POVERTY POV_STATUS	Percentage of people below poverty level, and number of people assigned poverty status, for 1979. Percentage is computed using POV_STATUS.
P_FAM_POV	Percentage of families below poverty level in the state or county, in 1979.
FAMILYHHLD	Family households in the state or county, in 1980. This figure was used to compute P_FAM_POV.

Housing and construction

HSE_UNITS	Housing units in the state or county, in 1980.
*P_CHG_HSE	Percentage change in the number of housing units in the state or county from 1970 to 1980.
OCCUP_HSE	Number of housing units in the state or county that were occupied in 1980.
P_OWN_OCC	Percentage of housing units in the state or county that were occupied by the owner in 1980.
P_2CAR_OCC	Percentage of occupied housing units in the state or county that included two or more automobiles in 1980.
OCC_SAMPLE	Estimated total number of occupied housing units in the state or county in 1980. This figure is based on a sample. It was used to compute P_OWN_OCC and P_2CAR_OCC.
*MEDIAN_DOL	The median value of occupied housing units in the state or county in 1980, in dollars.
*PERMIT_86	New private housing units in the state or county that were authorized by permit in 1986. Approximately 17,000 places require permits for new construction, constituting about 95% of all new construction.
*PRMT_80_86	New private housing units in the state or county that were authorized by permit for the years 1980 through 1986.
*P_PERMITS	New private housing units in the state or county that were authorized by permit from 1980 to 1986 as a percentage of housing units in 1980. Computed by dividing PRMT_80_86 by HSE_UNITS.

Labor force attributes

CIVLABOR86 — Civilian labor force in the state or county, in 1986.

P_CHG_CIV — Percentage change in the civilian labor force from 1985 to 1986, in the state or county.

CIV_UNEMP — Unemployed civilian labor force in the state or county, in 1986.

UNEMP_RATE — Unemployment rate of the civilian labor force in the state or county, in 1986.

Line attributes

Thorough definitions of these attributes are given on page 4-7.

Geographic reference attributes

L_ST_FIPS
R_ST_FIPS — The FIPS code of the states on either the left or right side of a boundary segment is contained in these attributes.

ST_NAMES — The states on either side of a boundary are identified by name in this attribute.

Classification attribute

BNDY_TYPE — Each line is classified according to boundary type. The codes are as follows:

Codes		Definitions
1	=	County boundary
2	=	State boundary
3	=	International boundary
4	=	Coastline

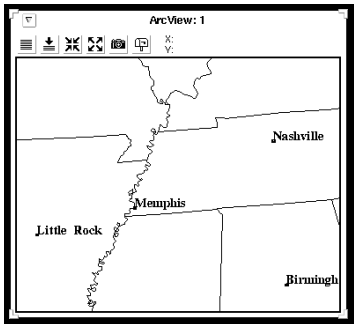
Chapter 5

The ArcUSA 1:25M layers

The ArcUSA 1:25M coverages represent generalized versions of some of the larger-scale USA 1:2M coverages. The ArcUSA 1:25M coverages have fewer attributes than the 1:2M coverages and are designed for people interested in either national-level analysis or a quick exploratory reconnaissance before delving into the ArcUSA 1:2M layers for more detailed state- or region-level analysis. The ArcUSA 1:25M layers are listed in the table below.

Layer	Coverage names
Cities	CITIES
County Boundaries	CTY_25M
Land/Ocean Display	LAND25M
Map Elements	SC_25M
Rivers	RIV_25M
Roads	RDS_25M
State Boundaries	ST_25M
Statistical Attributes by State	STATS_S
Statistical Attributes by County	STATS_C

Cities



Points

Layer description

The Cities layer contains point features representing populated places that are major U.S. cities, state capitals, and county seats. Attributes include separate codes for the different kinds of cities so that they may be selected independently for display. The city name, elevation (for some cities) and geographic reference attributes are included as well.

Using the Cities coverage

The 108 cities identified in this coverage are useful as general geographic identifiers for small-scale maps. The location of the points in this coverage was taken from latitude/longitude coordinates listed in the digital version of the USGS's Concise Digital Database. As is common for gazetteers, the geographic coordinates were rounded, so their positions may reflect some error.

Cities

Summary of the Cities coverage

		dBASE	UNIX
Coverage name and size (MB):	CITIES	0.03	0.04

Source and currency: USGS, Concise Digital Database, approximately 1973

Thematic attribute groups: Classification attributes
Geographic reference attributes

Feature class	Feature	Number of features	Number of attributes
Points	Cities	Represented by 108 points	9

Point attributes

Classification attributes

NAME — The name of the city is stored in this attribute.

MAJ_CITY — This attribute contains codes that identify the seventy-four most populous cities in the coterminous United States.

Codes		Definitions
0	=	Not a major city
1	=	A major city

CAPITAL — This attribute contains codes that identify the capital cities of the forty-eight states in the database, plus the national capital.

Codes		Definitions
0	=	Not a capital
1	=	A state capital
2	=	The national capital (Washington, D.C.)

CTY_SEAT

This attribute contains codes that identify which of the major cities and state capital cities are also county seats. There are ninety-six county seats in this coverage.

Codes		Definitions
0	=	Not a county seat
1	=	A county seat

Elevation

ELEVATION

A city's elevation with respect to sea level, expressed in feet. Elevation is listed for some cities only.

Geographic reference attributes

CNTY_NAME
STATE_FIPS
STATE_NAME
SUB_REGION

Cities can be selected by the county name, state name, state FIPS code, or the subregion in which they are located.

County Boundaries

Layer description

The County Boundaries layer serves as a small-scale county basemap for the coterminous United States. The cartographic representation of political boundaries and shorelines has been generalized from the ArcUSA 1:2M County Boundaries layer. This layer contains the same number of counties and county equivalent areas as the ArcUSA 1:2M layer (more than 3,100 entities).

Polygons

The layer contains new counties for Arizona and New Mexico, as well as several independent cities, primarily in Virginia, that were added by ESRI to the DLG source data. These additions brought the currency of the layer from 1973 to 1988.

Lines

In the line theme, boundaries are classified as to whether they are county, state, or international boundaries, or shorelines. Attributes that may be used to select certain geographic areas for display are contained in both the line and polygon themes.

Using the County Boundaries coverage

The more generalized cartography and fewer offshore islands in this layer make it especially useful for fast display of small-scale thematic maps with the ArcUSA 1:2M statistical attribute data.

Some counties, such as those that include offshore islands, are represented by multiple polygons. A flag attribute is provided so that the largest polygon can be used to represent the county for choroplethic mapping or text labeling. The county name attribute can be used to provide the text for labeling the polygons in a base map.

Summary of the County Boundaries coverage

		dBASE	UNIX
Coverage name and size (MB):	CTY_25M	3.20	2.73

Source and currency: DLG, 1988

Thematic attribute groups: Geographic reference attributes (polygons and lines)
Statistical flag (polygons)
Classification attributes (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Counties and independent cities	3,111 features represented by 3,444 polygons	7
Lines	County and independent city boundaries	Represented by 7,491 lines	4
	State boundaries	Represented by 1,203 lines	
	International boundaries	Represented by 68 lines	
	Shorelines	Represented by 734 lines	

Polygon attributes

Geographic reference attributes

STATE_FIPS
CNTY_FIPS
FIPS
STATE_NAME
CNTY_NAME
SUB_REGION

The state, county, and combined state/county FIPS codes, as well as the state name and U.S. subregion, can be used to select particular county polygons for display or study. The U.S. subregions are shown on the map on page 1-2.

Statistical flag

STAT_FLAG — Flag used to identify a single polygon for each county. The codes are as follows:

Codes		Definitions
0	=	Additional polygon
1	=	Largest polygon

Line attributes

Geographic reference attributes

L_ST_FIPS
R_ST_FIPS — The FIPS codes of the states on the left and right sides of a boundary are contained in these attributes. For county boundaries inside a state, the left and right FIPS codes are the same. For state boundaries, the left and right FIPS codes are different. The left and right sides of a boundary are defined by the direction in which that line segment was digitized, so both attributes must be checked when querying for boundaries of a particular state.

ST_NAMES — This attribute contains the names of states on both sides of a boundary. Two states are listed for state boundaries (e.g., "Wisconsin/Minnesota"). Only one state is identified for county and international boundaries and shorelines.

Classification attribute

BNDY_TYPE

Each line is classified according to boundary type. This attribute allows you to choose unique symbols for different political boundaries and coastlines. Wherever boundaries are coincident, rank is assigned in the reverse order of the list below (beginning with coastlines). Thus, a county boundary that is also a state and international boundary will only be coded as "3" for international boundary. The codes are as follows:

Codes		Definitions
1	=	County boundary
2	=	State boundary
3	=	International boundary
4	=	Coastline

Land/Ocean Display

Layer description

Land and water areas beyond the extent of the other ArcUSA cartographic layers are contained in the Land/Ocean Display layer. Canada, Mexico, the Atlantic and Pacific oceans, and each of the Great Lakes can be displayed and labeled to create a finished-looking map.

Polygons

Using the Land/Ocean Display coverage

The primary purpose of this layer is to provide an attractive cartographic treatment between the data content area and the edge of the display window. For example, a continuous background can be displayed by symbolizing the polygons in this layer with solid colors, such as blue for water and beige for land.

A U.S. coastline display using the State Boundaries or County Boundaries layer can be continued into Canada and Mexico with the line theme in this layer. (The "processing grid" can be omitted from display if you select only the feature lines.)

The annotation theme associated with this layer contains labels for the major country and water features. Annotation is best for displays showing the full extent of the database, so that names will be entirely visible. The annotation is suited for a detailed display of the Great Lakes region, however, because the annotation text for those features is relatively small.

Summary of the Land/Ocean Display coverage

		dBASE	UNIX
Coverage name and size (MB):	LAND25M	0.40	0.50

Source and currency: ESRI ArcWorld, 1992

Thematic attribute groups: Classification attributes (polygons and lines)

Annotation: Mexico, Canada, Atlantic Ocean, Lake Superior, Lake Michigan, Gulf of Mexico, Gulf of California, and so on.

Feature class	Feature	Number of features	Number of attributes
Polygons	Land	Represented by 471 polygons	1
	Water	Represented by 39 polygons	
Lines	Artificial grid lines	Represented by 96 lines	1
	Feature boundaries	Represented by 653 lines	

Polygon attributes

Classification attribute

LND_WAT

Each polygon is classified as either land or water (ocean and the Great Lakes), as follows:

- Land
- Water

Line attributes

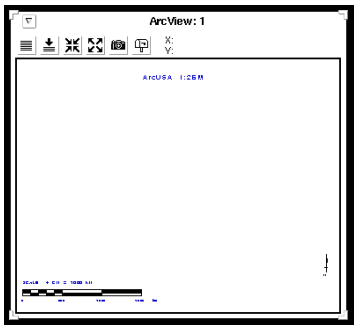
Classification attribute

BND_GRID

Each line segment is classified either as a feature boundary (shorelines and international boundaries) or an artificial grid line (a data processing line that divides the data into geographic sections). The codes are as follows:

Codes		Definitions
0	=	Artificial grid line
1	=	Feature boundary or outer coverage extent line

Map Elements



Polygons and Lines

Layer description

The Map Elements layer contains a scale bar, North arrow, and title that can be used to make your display look like a finished map.

Using the Map Elements coverage

In the polygon theme, the scale bar and the head of the North arrow are coded so that they may be filled with color. An annotation theme provides the title and characters associated with the other map elements.

The scale is given in kilometers, since the Albers Conic Equal-Area Projection uses meters. Because the scale bar is in a predetermined location that cannot be changed, it can only be used for maps that display the full extent of the database.

Summary of the Map Elements coverage

		dBASE	UNIX
Coverage name and size (MB):	SC_25M	0.02	0.03

Source and currency: ESRI, 1992

Thematic attribute groups: Classification attributes (polygons)

Annotation text: Map title, scale, and North arrow characters

Feature class	Feature	Number of features	Number of attributes
Polygons	All polygon features	Represented by 15 polygons	1
Lines	All line features	Represented by 43 lines	0

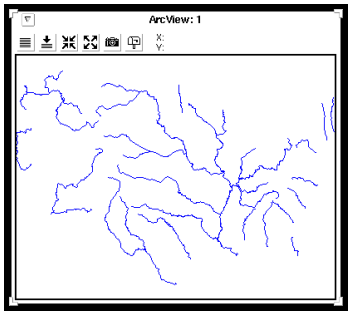
Polygon attributes

Classification attribute

FILL The scale bar is designed so that it can be filled with alternating colors. The arrowhead on the North arrow can also be filled. The codes are as follows:

Codes		Definitions
1	=	First color (scale bar)
2	=	Second color (scale bar and North arrow)

Rivers



Lines

Layer description

The Rivers layer is a subset and a generalized version of the ArcUSA 1:2M Rivers and Streams layer.

Using the Rivers coverage

The process of selecting rivers for this layer from the detailed ArcUSA 1:2M Rivers and Streams layer involved a two-step process. First, the longest rivers and river branches were selected, including segments coded as "River centerline" and "Centerline through a waterbody." Next, this result was checked visually, and some rivers were reintegrated to provide an even cartographic appearance.

A number of spatial interactions between rivers and political boundaries are possible. For example, a political boundary may coincide with a river, may follow a historical river course, or may follow one shoreline. For this reason, if you are displaying a political unit, such as a state, a river along the political boundary may appear to lack continuity. Illustrations of these situations and further discussion of coincident rivers and political boundaries are presented in Chapter 6.

Summary of the Rivers coverage

		dBASE	UNIX
Coverage name and size (MB):	RIV_25M	0.52	0.46

Source and currency: DLG, 1973

Thematic attribute groups: Classification attributes
Geographic reference attributes

Feature class	Feature	Number of features	Number of attributes
Lines	River shorelines	Represented by 3 lines	5
	River centerlines	Represented by 978 lines	
	Perennial rivers	Represented by 899 lines	
	Intermittent rivers	Represented by 12 lines	
	Centerlines of perennial streams through water bodies	Represented by 213 lines	
	Centerlines of intermittent streams through water bodies	Represented by 2 lines	
	Braided rivers	Represented by 50 lines	
	Navigable canals	Represented by 2 lines	
	Other canals	Represented by 3 lines	
	All features	Represented by 2,162 lines	

Line attributes

Classification attributes

TYPE
RIVER_TYPE

The class number of the river or stream segment is stored in TYPE; its English equivalent is stored in RIVER_TYPE. The codes are as follows:

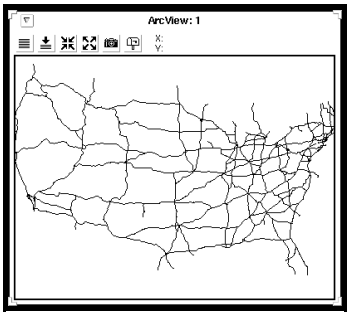
Codes		Equivalents
1	=	River shorelines
2	=	River centerlines
3	=	Perennial river or stream
4	=	Intermittent river or stream
5	=	Centerline of perennial stream through a waterbody
6	=	Centerline of intermittent stream through a waterbody
7	=	Braided river or stream
8	=	Navigable canal
9	=	Other canal

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

Rivers can be selected by the state name, FIPS code, or the subregion in which they are located.

Roads



Lines

Layer description

The Roads layer contains selected roads, particularly interstate highways, from the ArcUSA 1:2M Roads layer. Interstate, U.S., and state route numbers have been retained. Geographic reference attributes for the selection and display of a certain geographic area are given, also.

Using the Roads coverage

This simplified Roads layer is especially useful for small-scale U.S. or regional maps where a basic road network is needed for visual orientation. It can be used with other ArcUSA 1:25M layers or in conjunction with ArcUSA 1:2M data.

Summary of the Roads coverage

		dBASE	UNIX
Coverage name and size (MB):	RDS_25M	0.93	0.75
Source and currency:	DLG, 1980		
Thematic attribute groups:	Route numbers Geographic reference attributes		

Feature class	Feature	Number of features	Number of attributes
Lines	All roads	Represented by 4,658 lines	11

Line attributes

Route numbers

INTER_RTE1
INTER_RTE2
INTER_RTE3

Federal interstate route numbers. If a road segment has multiple federal route numbers, the lowest numeral will be present in INTER-RTE1. A zero indicates that the interstate does not have additional route numbers or that the road segment is not part of the interstate highway system.

US_RTE1
US_RTE2
US_RTE3

U.S. route numbers. If a road segment has multiple U.S. route numbers, the lowest numeral will be present in US_RTE1. A zero indicates that no U.S. route number applies.

STATE_RTE1
STATE_RTE2

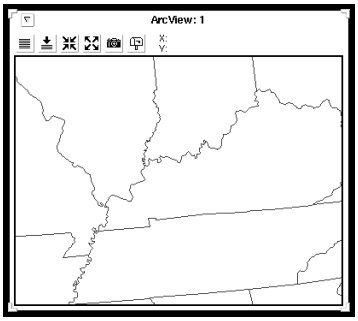
State route numbers. If a road segment has multiple state route numbers, the lowest numeral will be present in STATE_RTE1. A zero indicates that no state route number applies.

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

Roads can be selected by the state name, FIPS code, or the subregion in which they are located.

State Boundaries



Lines

Layer description

The State Boundaries layer serves as a basemap for the coterminous United States. The cartographic representation of boundaries and shorelines has been generalized from the ArcUSA 1:2M State Boundaries layer. The polygon and line attributes and attribute values are identical to those in the ArcUSA 1:2M layer.

Using the State Boundaries coverage

The more generalized cartography in this layer makes it particularly useful for the fast display of small-scale thematic maps with ArcUSA 1:2M statistical attribute data.

Some states, such as Michigan and New York, are represented by multiple polygons. Each of these polygons is assigned the statistics for the entire state. The statistical flag attribute (STAT_FLAG), which identifies only one polygon per state, can be used to prevent state totals from being added repeatedly during statistical analyses and to prevent text like the state name from being drawn repeatedly in a display. The statistical flag attribute value has been assigned to the largest polygon in each state.

To create a base map with state names, you can use the state name attribute as text to label the polygons. Again, you can use the flag attribute to select only one polygon per state for text labeling.

Summary of the State Boundaries coverage

		dBASE	UNIX
Coverage name and size (MB):	ST_25M	0.34	0.35

Source and currency: DLG, 1973

Thematic attribute groups: Geographic reference attributes (polygons and lines)
Statistical flag (polygons)
Classification attributes (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Coterminous states plus District of Columbia	49 features represented by 336 polygons	4
Lines	All boundaries	Represented by 472 lines	4

Polygon attributes

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

The state FIPS code, state name, or U.S. subregion can be used to select one or a group of state polygons for display or study. The U.S. subregions are shown on the map on page 1-2.

Statistical flag

STAT_FLAG

Flag to identify a unique polygon for each county and county equivalent. The codes are as follows:

Codes		Definitions
0	=	Additional polygon
1	=	Largest polygon

Line attributes

Geographic reference attributes

L_ST_FIPS
R_ST_FIPS

The FIPS codes of the states on the left and right sides of a boundary are contained in these attributes. For state boundaries, the left and right FIPS codes are different. The left and right sides of a boundary are defined by the direction in which that line segment was digitized, so both attributes must be checked when querying for boundaries of a particular state.

ST_NAMES

The state on either side of a boundary is identified by name in this attribute. Two states are listed for state boundaries (e.g., "Wisconsin/Minnesota"). Only one state is identified for international boundaries and shorelines.

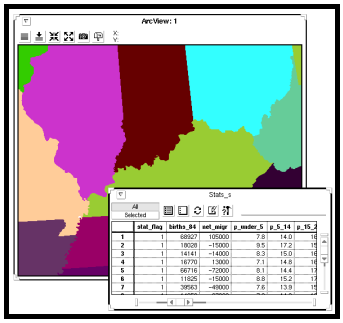
Classification attribute

BNDY_TYPE

Each line is classified according to boundary type. The codes are as follows:

Codes		Definitions
2	=	State boundary
3	=	International boundary
4	=	Coastline

Statistical Attributes

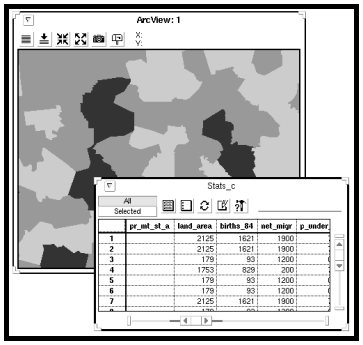


Polygons and lines for states

Layer descriptions

The Statistical Attributes layers contain selected attributes from the ArcUSA 1:2M state and county statistical attribute layers. These attributes include demographic, socio-economic, local government financing, and agricultural data for states and counties. The county-level layer also contains land capability attributes from the ArcUSA 1:2M Environmental Attributes layer.

Using the Statistical Attributes coverages



Polygons and lines for counties

Since the attributes in this layer come from several sources, different types of considerations apply to different groups of attributes. Note also that the data in these coverages are for various years. For example, some data are for 1980, others for 1984, while still other data cover a range of years, such as 1980 to 1986. This variety in dates should be considered when making data comparisons.

Attributes for metropolitan areas. The county-level coverage contains three attributes that identify metropolitan counties. The first attribute (CNTY_TYPE) identifies whether a county is considered a metropolitan county, and if so, which type. The other two attributes (MET_ST_AR and PR_MT_ST_A) list the appropriate metropolitan area FIPS codes. These attributes are more thoroughly defined in "Using the Census coverages from the *County and City Data Book*," beginning on page 4-89. A complete listing of metropolitan areas and their FIPS codes is given in Appendix C.

Zero values. For some of the attributes in these coverages, particularly the county-level coverage, a zero value may represent something other than a measurement of zero. It may represent an approximate value of zero (measurements of greater than zero but less than half the measurement unit, like less than half a hectare, were rounded down to zero). However, a zero entry may also mean that data were unavailable, that the actual value was suppressed for reasons of confidentiality or publication standards, or that the measurement did not apply to that political unit.

Additional information about attributes with zero values is given on pages 4-89 and 4-91. Those attributes for which zero indicates something other than a measurement of zero are marked with an asterisk in the attribute listings.

Definition of local government. State and county information in these attributes represents a summary of the data for municipal, county, town, and township government figures. In other words, the value for "local government taxes per capita" (TAX_CAP) in the county coverage represents the county taxes *plus* taxes levied by towns and cities within the county. In the state coverage, TAX_CAP represents the summary of the county and municipal government data for the whole state. It does *not* represent the taxes levied by the state government.

Agricultural attributes. The agricultural attributes in this layer come from the U.S. Census of Agriculture. The agricultural census does not recognize or summarize statistics for independent cities. Such places may have a blank or zero value for some of these attributes. Additional general information about agricultural attributes begins on page 4-70.

Summary of the Statistical Attributes coverages

State coverage

Coverage name and size (MB):		dBASE	UNIX
	STATS_S	0.49	0.40

Source and currency: Cartography from Digital Line Graphs; current to 1973
Attribute data selected from various sources, which are:
U.S. Census Bureau, 1990 Census and Digital County and City Data Book, 1988; U.S. Census of Agriculture, Tables 1 and 2, 1987.

Thematic attribute groups:
Geographic reference attributes (polygons and lines)
Demographic attributes (polygons)
Socioeconomic attributes (polygons)
Government and financial attributes (polygons)
1990 Census attributes (polygons)
Farm and agricultural attributes (polygons)
Classification attribute (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Coterminous states plus District of Columbia	49 features represented by 336 polygons	41
Lines	All boundaries	Represented by 472 lines	4

The polygon and line attributes described below are present in both the state and county coverages, except where specifically noted otherwise.

Polygon attributes

Geographic reference attributes

STATE_FIPS
STATE_NAME
SUB_REGION

The state FIPS code, state name, and U.S. subregion can be used to select particular state or county polygons for display or study. The U.S. subregions are shown on the map in Chapter 1.

County coverage

		dBASE	UNIX
Coverage name and sizes(MB):	STATS_C	5.00	3.37

Source and currency: Cartography from Digital Line Graphs; current to 1988
Attribute data selected from various sources, which are:
U.S. Census Bureau, 1990 Census and Digital County and City Data Book, 1988; U.S. Census of Agriculture, Tables 1 and 2, 1987; Oak Ridge National Laboratory, GeoEcology Database, various dates, 1967 to 1979.

Thematic attribute groups:
Geographic reference attributes (polygons and lines)
County land area (polygons)
Demographic attributes (polygons)
Socioeconomic attributes (polygons)
Government and financial attributes (polygons)
1990 Census attributes (polygons)
Farm and agricultural attributes (polygons)
County land capability (polygons)
Classification attribute (lines)

Feature class	Feature	Number of features	Number of attributes
Polygons	Counties and independent cities of coterminous United States	3,111 features represented by 3,444 polygons	50
Lines	County, state, and international boundaries, shorelines	Represented by 9,496 lines	4

These geographic reference attributes appear only in the county-level coverages.

CNTY_FIPS
FIPS
CNTY_NAME

The county polygon coverages also contain the county FIPS codes, the combined state and county FIPS codes, and the county name.

Statistical flag

STAT_FLAG — Flag to identify a unique polygon for each county and county equivalent. The codes are as follows:

Codes		Definitions
0	=	Additional polygon
1	=	Largest polygon

Metropolitan area attributes

These attributes appear only in the county-level coverage.

CNTY_TYPE — This attribute allows the user to select counties according to census geography. The metropolitan area terms are explained on page 4-91. The codes are as follows:

- County within a CMSA/PMSA
- County within an MSA
- County within an NECMA
- County not in a metro area

MET_ST_AR — Metropolitan Statistical Area (MSA) or Consolidated MSA (CMSA) FIPS code. This attribute is blank for counties that are not included in an MSA or CMSA, and for MSA counties in New England.

PR_MT_ST_A — Primary Metropolitan Statistical Area (PMSA) FIPS code. In general, a PMSA is a county that contains a city of over 100,000 population.

County land area

This attribute appears only in the county-level coverage.

*LAND_AREA — The land area of the county in 1980. Land area excludes the areas of water bodies. The value in this item is measured in square miles.

Demographic attributes

BIRTHS_84	Number of births in the state or county during 1984.
NET_MIGR	Net migration in or out of the state or county from 1980 to 1986. This value represents the difference between the number of persons moving into an area and the number of persons moving away from the area. A negative value indicates net outmigration from the area.
*P_UNDER_5 *P_5_14 *P_15_24 *P_25_34 *P_35_44 *P_45_54 *P_55_64 *P_65_74 *P_OVER_74	Percentage of the state or county population between a given age range in 1984. For example, P_5_14 is the percentage of population between 5 and 14 years of age.
*POP1984	Total state or county population in 1984. This value was used to compute 1984 race and age population percentages.
PERS_HHLD	Average number of persons per household in the state or county, in 1985.
*MARRIAG_1K	Number of marriages per 1,000 people in the state or county, in 1984.
HBBDS_1000	Number of hospital beds per 1,000 persons in the state or county, in 1985.

Socioeconomic attributes

*SSRECIP_1K	The number of Social Security beneficiaries per 1,000 population in the state or county, in 1985.
*SR_CR_100K	Serious crimes known to police per 100,000 population in the state or county, in 1985.

P_COL_GRAD	Percentage of state or county population 25 years of age and older with 16 years or more education in 1980.
INC_CAP_85	Money income per capita in the state or county, in 1985.
*MEDIAN_DOL	The median value of occupied housing units in the state or county; 1980, in dollars.

Government and financial attributes

FEDFUNDGRT	Federal funds and grants to local governments in 1986, summarized to the state or county level; in millions of dollars.
TAX_CAP	Local government taxes in 1981–1982, in dollars per capita, summarized to the state or county level.
*LG_EMP_10K	Local government employment per 10,000 population as of October 1982, summarized to the state or county level.
*PRESVOTE84	Votes cast for President in the 1984 presidential election.

1990 Census attributes

POP1990	Total population of the state or county in 1990.
TOTAL_SQMI	Average population per square mile in the state or county. Computed by dividing TOTAL by the land area of the state or county.
P_WHITE	Percentage of the state or county population identified as white. Computed by dividing WHITE by TOTAL.
P_BLACK	Percentage of the state or county population identified as black. Computed by dividing BLACK by TOTAL.

P_AMERIND	Percentage of the state or county population identified as American Indian. Computed by dividing AMERIND by TOTAL.
P_ASIAN	Percentage of the state or county population identified as Asian. Computed by dividing ASIAN by TOTAL.
P_OTHER	Percentage of the state or county population identified as belonging to a race other than white, black, American Indian, or Asian. Computed by dividing OTHER by TOTAL.

Farm and agricultural attributes

FARM_ACRES	The amount of farmland in the state or county, in acres.
AVG_SIZE	Average farm size in the state or county, in acres.
CROP_ACRES	Total area of cropland in the state or county, in acres.
IRRIGATE_A	Area of irrigated land in the state or county, in acres.
SALES_1K	Market value of agricultural products sold from the state or county, in thousands of dollars.
AVG_SALES	Average sales of agricultural products per farm in the state or county, in dollars.

County land capability

These attributes appear only in the county-level coverage.

P_SL_NO_AG	Percentage of the county land area with soils that are inappropriate for cultivation.

P_DIST_UND — Percentage of the county land area that has been disturbed by surface mining activities.

Line attributes

Geographic reference attributes

L_ST_FIPS
R_ST_FIPS — The FIPS code of the states on either the left or right side of a boundary segment are contained in these attributes.

ST_NAMES — The states on either side of a boundary are identified by name in this attribute.

Classification attribute

BNDY_TYPE — Each line is classified according to boundary type. The codes are as follows:

Codes		Definitions
1	=	County boundary
2	=	State boundary
3	=	International boundary
4	=	Coastline

Chapter 6

Using the database

This chapter contains information that will help you use the ArcUSA database successfully. The information covers three general areas: techniques for selecting data in order to improve software performance, information about working with attributes in order to analyze data, and suggestions for creating attractive, functional graphic displays.

Optimizing performance

Reduce the number of features

To improve performance when you use a large database like ArcUSA, reduce the amount of data you are dealing with as soon as possible. This will improve performance for subsequent search operations (logical operations) as well as reduce drawing times. Many layers in the database have been coded by geographic region and by state. Thus, if you know that your need for cartographic or attribute information is limited to one state or region, selecting first by the appropriate values will speed up subsequent operations. Any of the geographic reference attributes, such as state and county names, can be used for this selection. The use of FIPS codes eliminates the need to spell out long state names like "Massachusetts." In ArcView, use the Definition tool in the Theme Property Sheet to select the states or counties with which to work.

Reduce the number of attributes

You can also reduce the number of attributes you work with. If you are an ARC/INFO user, you can use commands like DROPITEM or PULLITEMS to eliminate unnecessary attributes. If you use ArcView for Windows, you can

use commercially available PC software like Q + E, dBASE, or FoxPro for this purpose.

Use simple selection statements

Break complex selection logic statements into simpler statements. For example, to select all counties in Ohio in which the percentage of population between the ages of 5 and 14 is greater than 10%, you could use the following complex statement:

```
STATE_NAME = Ohio and P_5_14 > 10
```

However, the same selection logic can be expressed in the following two statements:

```
STATE_NAME = Ohio

P_5_14 > 10
```

and these statements will search the database in less time than a single complex statement.

Use the 1:25M database whenever possible

As noted in Chapter 2, another way to decrease drawing time is to use the 1:25,000,000-scale data whenever possible. For small-scale representations of the attribute information present in the 1:2,000,000-scale data, the cartographic level of detail may be served better by the 1:25M layers. Be aware, however, that even though you can zoom in to display data at any scale desired, the cartographic level of detail remains consistent with the scale at which the database was constructed.

For use with ARC/INFO, normalize the database

ARC/INFO users may want to create a series of smaller, more compact tables for tabular information in order to take advantage of the relate capability in ARC/INFO. The process of creating compact related tables is called normalization; explanations can be found in standard database design textbooks. The present design of the ArcUSA database allows the ArcView user to access tables that are not normalized.

Working with attributes

Flag attributes

Some of the states and counties in the database are represented by multiple polygons. The state of Michigan, with its upper peninsula and many islands, is a good example. In these cases, the polygons in the layer have been coded with a statistical flag named STAT_FLAG that can be used to select the largest polygon of the group. The flag allows a single polygon to be selected so that the state or county name will appear only once in a display. The flag also allows attribute values to be added correctly. The same attribute values are stored for every polygon that composes the political entity. If a state is represented by four polygons, the same attribute record is coded for each of the four polygons. Unless data are selected using STAT_FLAG, statistical operations in the software will return a total population (for example) for that state four times the true population figure. First selecting only the flagged polygons will result in the correct statistic.

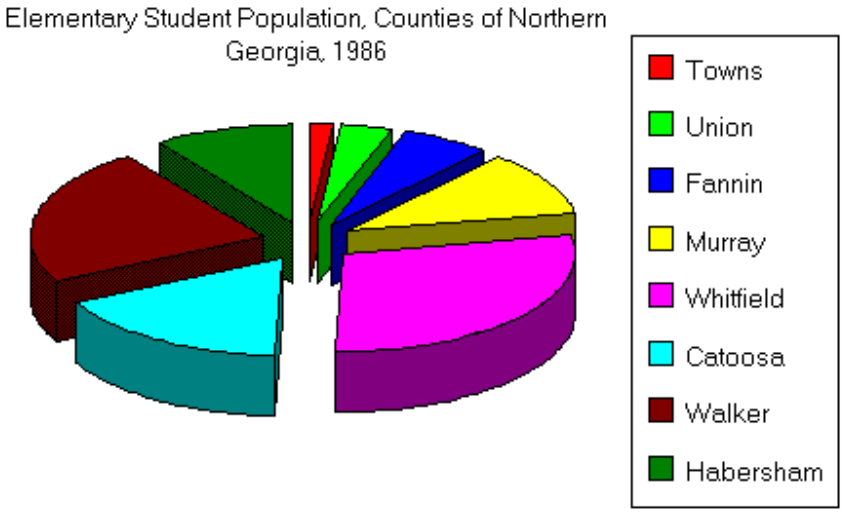
Data export

Attribute data from ArcUSA may be downloaded into other software programs like spreadsheets or database management systems, where charts, graphs, and other graphic displays can be generated. ArcView users can save a selected tabular data set to a file by clicking on the "save the table as a file" icon at the top of a Theme Table. A dialog box appears that you can use for navigating to a directory into which you can write the file. By default, ArcView saves a tab-separated ASCII file. You can change this setting by choosing "Preferences" in the File menu. See Chapter 3 in the *ArcView User's Guide* for more information on saving tabular data.

A list of Windows software for use with ArcUSA appears in Table 1. This list of software is included to illustrate the types of packages with which ArcView for Windows can be used. It is not an endorsement of any particular software product, nor is it inclusive; many other products will work as effectively. These are merely the products that we have tried at ESRI and have found to be effective for use with ArcUSA.

Table 1: Windows software

Software Program	Functions
dBASE	Used to manage and manipulate feature attribute and related tables
Excel	Spreadsheet tools for manipulating selected attribute records, business graphics, summaries, and other spreadsheet functions
Q + E	Joins dBASE attribute tables
CorelDRAW	Graphics editor for Windows
Paintbrush	Graphics editor for Windows (and delivered as part of Windows)
ObjectVision	Used to build front ends to dBASE files
Publisher	A word processing and publishing package that is integrated with Windows



ArcUSA data can be imported into other software applications like Excel for further statistical analysis.

Units of measure

A number of different units are used for the various measurement attributes. The units used for area, length, volume, and weight are listed in Table 2. Other units used in the database include decimal degrees (used for all geographic coordinate layers and in the latitude/longitude grids) and dollars (which may be expressed in different denominations, like thousands of dollars).

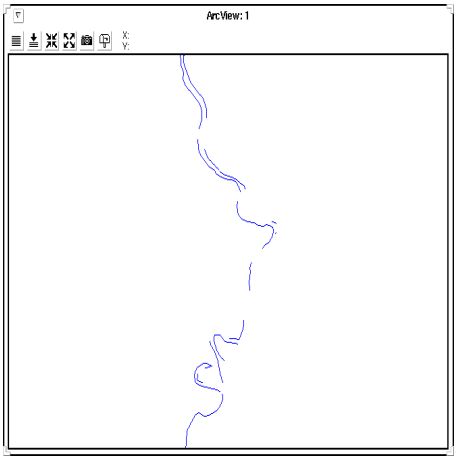
Table 2: Units of measure in the ArcUSA database

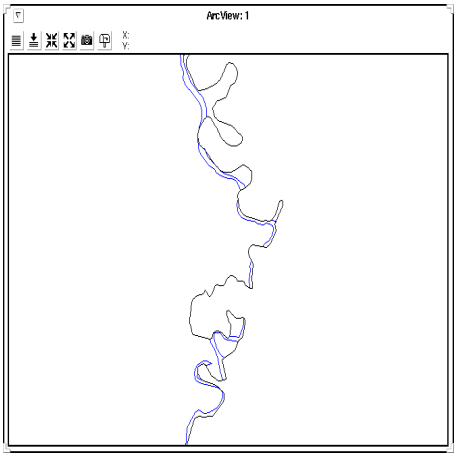
Units	Layers in Which Used	Common Equivalents
Area		
Square miles	USGS 1:24,000 Topographic Quadrangle Series Index Demographic and Health Attributes Government and Financial Attributes Socioeconomic Attributes	640 acres 259 hectares 2.59 square km
Square meters	All polygon layers	10.76 square feet
Hectares	Environmental Attributes	2.471 acres
Acres	Agricultural Product Inventory	0.405 hectares
Length		
Meters	All layers	3.281 feet
Kilometers	Map Elements (scale bar)	0.621 miles
Volume		
Bushels	Agricultural Product Inventory	35.238 liters 1.244 cubic feet
Bales	Agricultural Product Inventory	
	Weight	
Pounds	Agricultural Product Inventory	
Hundredweight (CWT)	Agricultural Product Inventory	100 pounds
Tons	Agricultural Product Inventory	2,000 pounds

Drawing with ArcUSA

Graphic results of selection operations

The geographic features in most of the database layers are coded by state and region to facilitate selection operations. Sometimes this type of coding can produce unexpected graphic results. For example, because rivers often meander in and out of a state, a selection of features by state name will display only those river segments that are within the state, and not those slightly outside the state boundary. To make the river network look more familiar, display the Boundaries layer with the Rivers and Streams layer.





Feature drawing order

The order in which features are drawn on the screen affects the final display. For example, if polygon features are shaded last, the shades will cover any previously drawn shades, line work, and text. You will need to experiment with the drawing order of the features you select in order to achieve the best display. In general, the following drawing order (from bottom to top in the ArcView Table of Contents) can help you achieve the desired display:

1. Color-filled polygon shades
2. Pattern-filled polygons
3. Lines or polygon borders
4. Point features and text

A logical order can also often be identified for line features. For example, contour lines represent the ground, drainage lines represent the flow of water over the ground, and transportation lines represent bridges over the water. By drawing these features in that order, lines will be displayed by their logical hierarchy.

Choroplethic mapping

Choroplethic mapping is the use of area shades or patterns to show the areal distribution of statistical information. Many of the statistical attribute data are ideally represented by this type of mapping.

However, to develop meaningful comparisons, you will often need to standardize the data by area or population. For example, the 1986 population of Arizona and Connecticut is 3,279,000 and 3,189,000, respectively. If the area of the states is not taken into account, a choropleth map would show the populations as approximately equal. But Connecticut has less than 5% the area of Arizona, so population density is 654 people per square mile, as compared with twenty-nine people per square mile for Arizona; the population situations are very different.

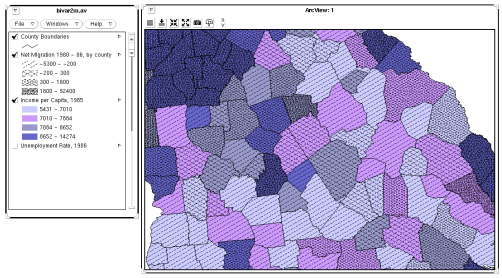
In this instance, the population density for both states is listed in an attribute named POP_SQMILE. For other population variables, however, such as the number of people belonging to one race or another in the 1990 U.S. Census layer, the data are absolute numbers and have not been standardized by area.

To simplify a display, use the same patterns for the same ranges in all areas. If the value of each state's density were given a unique value, the resulting map would show forty-eight unique shades, which would be difficult to interpret. Instead, divide the data into a few classes, which are easier to understand when they are mapped. Cartographers generally recommend using from four to ten different classes; some cartographers recommend using an odd number of classes so that there is one class that can be further categorized as high, medium, and low.

You can form classes by using the "class values" option in the ArcView legend window, or by using the ARCPLOT CLASS command in ARC/INFO.

Bivariate mapping

A variation of choroplethic mapping, which was referred to in Chapter 2 as "bivariate mapping," is simultaneously displaying two variables using different symbols over the same geographic area. In ArcView, bivariate mapping can be accomplished by displaying one variable in a color and the other variable in a pattern. This technique is commonly used to investigate relationships, or correlations, between two different attributes. For example, net migration out of an area may be related to a high rate of crime, high unemployment, or a high local tax rate. In statistical terms, the variable being explained, net migration, is called the "dependent" variable, and the others are called "independent" variables. Because ArcView makes it so easy to generate color ramps (colors of gradually changing hue or of gradually increasing intensity, which can be made to correspond to gradual increases in a variable), it is recommended that you use colors to display the independent variables and a pattern to display the dependent variable; using color and pattern in this way makes it easy to create a series of bivariate maps.



Appendix A

Data quality information

This appendix summarizes quality information and technical details about the ArcUSA database. The information is presented to assist users in determining the suitability of ArcUSA data for their applications. The information about ArcUSA data characteristics is generally presented in the format recommended by the Digital Cartographic Data Standards Task Force as part of the development of the Spatial Data Transfer Standard (SDTS). ESRI is providing data quality–related information in this format to facilitate communication between providers and users of digital geographic data.

ArcUSA 1:2M data

During ArcUSA development, several modifications were made to the source data in order to generate a database in which the data had the following characteristics:

- Common scale
- Uniform level of resolution
- Consistent coding scheme
- Comparable (standardized) measurement data

Production of the ArcUSA database involved:

- Joining multiple-panel data into a single panel covering the coterminous United States
- Modifying source cartographic information and attribution schemes
- Associating tabular data with a cartographic base

In addition, a second, smaller-scale (1:25,000,000) data set was produced from the larger 1:2,000,000 one.

Summary of ArcUSA 1:2M characteristics

ArcUSA data at the scale of 1:2,000,000 consist of the following layers:

- County Boundaries
- Federal Lands
- Lakes and Other Water Bodies
- Land/Ocean Display
- Map Elements
- Place Names
- Rivers and Streams
- Roads
- Railroads
- State Boundaries
- Landsat Nominal Scene Index
- Latitude/Longitude Grids
- USGS 1:24,000 Topographic Quadrangle Series Index
- USGS 1:100,000 Topographic Quadrangle Series Index
- USGS 1:250,000 Topographic Quadrangle Series Index
- State and County 1990 Census, Public Law 94-171 Data
- State and County Agricultural Product Inventory
- State and County Agricultural Product Market Value
- State and County Demographic and Health Attributes
- County Environmental Attributes
- State and County Government and Financial Attributes
- State and County Socioeconomic Attributes

The ArcUSA 1:2M coverages have the following characteristics:

Characteristic	ArcUSA coverage characteristics
Format	ARC/INFO coverages
Input scale	1:2,000,000
Resolution: Lines Polygons	 50.8 m 2.3 sq km. Spurious polygons of smaller size may exist because of the overlay processing used to attribute state names and FIPS codes to features in cartographic layers
Resolution of statistical data	To county level
Generalization tolerance	Not applicable

Characteristic	ArcUSA coverage characteristics
Feature classes	Polygon, line, point
Feature attribute tables	Polygon, arc, point
Database normalization status	Unnormalized (repeating records exist)
Number of layers: Cartographic Index Statistical attribute	 10 (13 coverages) 5 (11 coverages) 13 (13 coverages)
Attribute types	Measurement (interval or ordinal values) Suppressed values: 0, -1, -2, -3, -4, -5, -6 Missing values: 0 Code (numeric or alphabetic codes) Null values (numeric): 9, 99, 999, 9999 Not applicable values (alphabetic): blanks Name (alphabetic or alphanumeric names) Missing values: blanks
Naming conventions: Coverages Tables Attributes	 10 alphanumeric characters (only "A-Z", "1-9" or "_" allowed) 10 primary and 3 extension alphanumeric characters (xxxxxxxx.PAT or .AAT with "A-Z", "1-9" or "_" allowed) 10 alphanumeric characters
Indexing	Tabular (all attributes sorted by value) Spatial (all coverages spatially subdivided into quadrangles by feature density)
Projection system	Albers Conic Equal-Area Standard parallels: 25° 30' N, 45° 30' N Origin: 96° 00' W, 23° 00' N Data are also available in geographic coordinates, expressed in decimal degrees
Units of measure	Meters
Horizontal datum	NAD 1927
Vertical datum	NGVD 1929
Coordinate precision	Single (coordinates rounded to the nearest meter)

Lineage

The lineage of the ArcUSA 1:2M data includes four main sources:

- Data derived primarily from 1:2,000,000-scale USGS DLG
- Data derived from ESRI's ArcWorld 1:3M database
- Mathematically generated indexes
- Data derived from tabular files published by the U.S. Bureau of the Census

Data derived from USGS Digital Line Graphs

Basic production process

The following general processing methods are applicable to all layers derived from DLG data. For a description of the characteristics of the DLG source data, refer to the DLG user guide, *Digital Line Graphs from 1:2,000,000-Scale Maps: Data Users Guide 3*. Special processing techniques applicable to a single database layer are described separately under the heading appropriate for the layer.

The 1:2,000,000-scale DLG optional files of the coterminous United States (fifteen panels) were converted into single-precision ARC/INFO coverages, using the DLGARC command in ARC/INFO Rev. 5.0.1. The coverages were then projected to a common coordinate space (Albers Conic Equal-Area projection; see technical specifications for projection parameters). Following projection, the coverages were appended using the ARC/INFO APPEND command. After all topological edits were completed for each layer, topology was established in the APPENDed coverage using the ARC/INFO command CLEAN with a fuzzy tolerance of 50.8 m. This resulted in a single 1:2M coverage of the coterminous United States for each database layer. All linework and attribute processing and all data quality reviews occurred on the APPENDed coverage. Once attribute processing and all data reviews were complete, the APPENDed coverages for the USGS 1:24,000 Topographic Quadrangle Series Index layer and the Lakes and Other Water Bodies layer were split into three tiles (regions) corresponding to the northern, southern, and western portions of the coterminous United States using the ARC/INFO command SPLIT with a fuzzy tolerance of 50.8 m.

Attribution

Modifications made to the coding scheme included the consolidation of existing attributes, the development of new attributes, and the introduction of attributes from one layer to another. USGS DLG major and minor attribute codes derived from DLG data were reviewed for each cartographic layer. In order to optimize the use of the ArcUSA database in an ARC/INFO environment, in most cases the codes were simplified, restructured into a nonhierarchical scheme, and given sequentially numbered attribute codes.

Measurement and suppressed value flag attributes in Census Bureau tabular data were consolidated into one attribute. In the Census of Agriculture layers, suppressed values are indicated by negative numbers, indicating either that no measurement was available or that data were suppressed for various reasons. In the *County and City Data Book* layers, suppressed values are indicated by zeros. New attributes introduced into the database include standardized attributes, flag attributes, prioritized attributes, and name attributes.

The introduction of attributes from one layer into others was most common for the geographic reference attributes. Attributes for state names, state FIPS codes, and U.S. subregions were introduced into all cartographic layers. In addition, state FIPS codes and name attributes were entered into the index layers. These attributes were coded through overlay processing. U.S. subregion codes and state name attributes were entered into the statistical layers.

The restructured data were subjected to a limited review in order to assess the completeness and logical consistency of the data. For the most part, these reviews focused on verifying the correctness of the restructuring process and not the correctness of the source data. As described under "Data quality review," selected attribute codes for individual layers were reviewed more extensively.

Indexing

Display and query times for the ArcUSA database were reduced by introducing two types of indexes into the database. One index is for the individual items in the database (a tabular index), and the other index is for the coverages (a spatial index).

In the *tabular index* (which applies to data in UNIX format only), all attributes are sorted by value. Such sorting facilitates user operations like logical reselections. It permits fast binary searches of item values in place of slower sequential ones; values of interest are identified and then matched with the corresponding record numbers.

In the *spatial index*, all coverages are spatially subdivided into quadrangles using a modified quadtree approach. The size and number of the quadrangles vary across the different coverages according to feature density. Spatial indexing supports subsequent user operations like spatial reselections and drawing efforts. It permits the speedy identification of the quadrangles in which the features of interest lie.

Data quality review

No independent evaluation of the attribute or positional accuracy of the source data was undertaken. However, a series of coverage-based (global) diagnostic tests were run on each ArcUSA coverage to ensure data quality and integrity. Code attributes were reviewed by checking for invalid codes in the database using the ARC/INFO CODEFIND command. Invalid code combinations were checked using the ARC/INFO CONSIST command (codes were deemed invalid if they were undefined in the ArcUSA data dictionary). Zero measurement values in the agricultural attribute layers were checked to see whether they were true zero values or indicators of missing or suppressed data. This was accomplished by checking the Census statistical attributes against their companion flag attributes. The zero entries with no corresponding flag were retained, and those with flags were replaced with the appropriate missing data identifier.

State and county name attributes were checked for spelling against the National Bureau of Standards *Guideline: Codes for Named Populated Places . . .* (FIPS Publication 55-2). Discrepancies in spelling between Publication 55 and the U.S. Census digital tabular files were resolved by adopting the spelling from Publication 55.

Visual tests involved the review of check plots. The check plots were matched against the source map book for the 1:2,000,000 DLG data (*The National Atlas of the United States of America*) to verify the validity of particular codes. Plots consisted of single attribute code plots. Depending on the complexity of the codes, either all codes or only a subset of valid codes was plotted to facilitate the review. For example, the "Reservoir" and "Lake" code classification might

be plotted together to ensure that no reservoir feature had been coded as a lake or vice versa. Cartographically nested codes (for example, an island enclosed by a lake that, in turn, was surrounded by a marsh) were closely reviewed. Codes found to be illegitimate were corrected.

State and county FIPS codes were very closely reviewed. The reason for this close scrutiny was that these codes played a key role in the association of the statistical attribute data with the graphic data. Both the state and county coverages were plotted out in full, and each individual FIPS code (state, county, combined) was checked. All FIPS codes found to be invalid or missing were corrected.

The FIPS codes were checked again after the graphic and the statistical attribute data were associated to ensure that the attribute data were assigned to the appropriate state and county. This check represented a rigorous county-by-county review that entailed querying the FIPS codes associated with each county in each statistical attribute layer.

Layer-specific processing

County Boundaries layer

Topological edits. In instances where a county boundary was coincident with a state or international boundary or coastline, multiple arcs were occasionally present in the DLG source data (i.e., one arc for each boundary type). For the ArcUSA database, all such duplicates were eliminated, leaving only one arc representing the feature. The DLG source data were updated by ESRI to contain two new counties for Arizona and New Mexico as well as several independent cities (primarily in Virginia).

Attribution. County names (CNTY_NAME) and U.S. subregions (SUB_REGION) were added to the database as new items. All lines in the layer were attributized, with boundary type (BNDY_TYPE) identifying the type of boundary. Some boundaries were coincident; for example, a county boundary might also be a state boundary and an international boundary. Thus, the boundary mentioned above would be attributized as an international boundary. In such cases, priority was assigned as follows: (1) coastline, (2) international boundary, (3) state boundary, (4) county boundary.

Data quality review. County and combined state and county FIPS codes were reviewed visually and corrected when found to be invalid or missing.

Federal Lands layer

Topological edits. The Federal Lands data were integrated with the State Boundaries data through an overlay process.

Attribution. The multiple coding scheme employed by the DLG was retained, because some federal land areas may belong to more than one category. Unlike the DLG source data, however, ArcUSA prioritized the assignment of type codes (TYPE1, TYPE2, TYPE3). The category with the most stringent restrictions on use (such as scenic waterway) is listed first, and the category with the fewest restrictions on use (such as national forest) is listed last. Items for state name (STATE_NAME), FIPS code (STATE_FIPS), and U.S. subregion (SUB_REGION) were added to enhance cartographic flexibility. Items containing the name of the land type (ADMN_TYPE1, ADMN_TYPE2, ADMN_TYPE3) were added as an online aid to the user.

Data quality review. No special reviews were performed for this coverage.

Lakes and Other Water Bodies layer

Topological edits. In cases where inland water shorelines (e.g., marshes) abutted coastlines or international boundaries, inland water polygons were edited to have coordinate coincidence with the boundary or coastline.

Attribution. The complex coding structure for lakes and other water bodies in the DLG source database permitted a feature to be coded with multiple codes. This coding scheme was replaced with a simpler scheme for the ArcUSA database. In the new system, an inland water body could only be assigned one code, according to a set priority (rank). The DLG source data contained attributes for area and length. These were eliminated, because both these attributes are software generated in ARC/INFO every time topology is established in a coverage. Items for state name (STATE_NAME), FIPS code (STATE_FIPS), and U.S. subregion (SUB_REGION) were added to enhance display flexibility.

Data quality review. After code restructuring, the water bodies were plotted by class, and DLG miscodes were corrected. "Nested cartography," such as marsh on an island within a lake, was carefully verified.

Place Names layer

Topological edits. The Place Names layer was derived from the U.S. Geographic Names Information System (GNIS) Concise Digital Database. The names of national parks, national forests, lakes, reservoirs, and populated places were extracted from this file. The populated places included in the coverage were county seats, state capitals, and major cities. For the remaining four types of place names, only the names of features present in ArcUSA layers were retained. Location points were generated for each place name using the geographic coordinates listed in the Concise Digital Database file. As is the case with most Gazetteer files, these coordinates were subject to some rounding.

Attribution. Items for county name (CNTY_NAME), state name (STATE_NAME), FIPS code (STATE_FIPS), and U.S. subregion (SUB_REGION) were added to enhance display flexibility.

Data quality review. No special reviews were performed for this coverage.

Railroads layer

Topological edits. After the APPENDing of DLG coverages, imprecise matching of line segments along source edges was corrected through manual edits.

Attribution. The DLG minor–major code structure was dropped in favor of a simplified coding scheme in which railroads were classified into six classes according to volume of traffic. Items in the simplified coding scheme are TYPE (classification code) and RAIL_TYPE (English equivalent of numerical code). Items for state name (STATE_NAME), FIPS code (STATE_FIPS), and U.S. subregion (SUB_REGION) were added to enhance display flexibility.

Data quality review. No special reviews were performed on this coverage.

Rivers and Streams layer

Topological edits. After the APPENDing of DLG coverages, imprecise matching of line segments along source edges was corrected through manual edits. Centerlines were digitized for all rivers that were wide enough to be

represented as two inland shorelines in the DLG source data. Where gaps existed in the rivers and streams coverage because of inland water bodies, centerlines were added to achieve connectivity in the coverage. Display of centerlines is therefore necessary in order to view a complete hydrological network.

Attribution. River codes in the DLG source database consisted of a complex coding structure permitting a feature to be coded with multiple codes. This coding scheme was replaced with a simpler scheme for the ArcUSA database. In the new system, a river segment can only be assigned one code, according to a set priority (rank). The code for intercoastal waterways was dropped entirely because of its low frequency of use. Also dropped were any codes that are ordinarily software generated, such as the length of a river segment. Items for state name (STATE_NAME), FIPS code (STATE_FIPS), and U.S. subregion (SUB_REGION) were added to enhance display flexibility.

Data quality review. No special reviews were performed on this coverage.

Roads layer

Topological edits. No special topological edits were performed.

Attribution. The twenty-seven DLG road classes were restructured into a simplified ten-class coding scheme (ESRI_CLASS) suitable for small-scale or regional displays requiring less detail. New items (DLG_CLASS1 to 3) were added; they contained class descriptions rather than just road class code numbers. Also added were items for state name (STATE_NAME), FIPS code (STATE_FIPS), and U.S. subregion (SUB_REGION). These geographic identifiers were added to enhance display flexibility.

Data quality review. Automated diagnostic checks were performed on the database for invalid and missing codes. The coverage was also reviewed for roads that crossed water bodies. Roads and interstates were plotted, and a general visual review of road classes and route numbers was performed. Inconsistent or invalid codes were corrected.

State Boundaries layer

Topological edits. Where state and coastline arcs were coincident, duplicate arcs were eliminated, leaving only one arc. In the DLG source data, boundaries extended into the Great Lakes. For the ArcUSA database, these boundaries were edited so that they terminated at the shoreline.

Attribution. County names (CNTY_NAME) and U.S. subregions (SUB_REGION) were added as new items to the database.

Data quality review. County and combined state and county FIPS codes were reviewed visually and corrected when found to be invalid or missing.

Data derived from ESRI ArcWorld 1:3M data

The only data in the ArcUSA 1:2M database derived from ESRI's ArcWorld 1:3M database appear in the Land/Ocean Display layer. The ArcWorld database was originally derived from the 1973 World Data Bank II (WDBII) database, which was produced by the U.S. Central Intelligence Agency (CIA). Little formal documentation exists on the lineage of WDBII, although it is known that it was automated from a wide variety of sources. ESRI received the data as ASCII flat files of coordinates and related tables. The data were converted into ARC/INFO format using a simple conversion routine at ESRI. The ArcWorld database includes significant revisions to the original WDBII source, mainly in the areas of topology correction, spurious polygon removal, and coordinate density reduction (of line primitives). The Land/Ocean Display coverage consists of those ArcWorld land, ocean, and coastline features that occur adjacent to the coterminous United States.

Index coverages

Latitude/longitude grids and index grids that correspond to the 1:24,000, 1:100,000, and 1:250,000 USGS Topographic Quadrangle Series were mathematically generated using the ARC/INFO GENERATE command with the GRID option. In this manner, the theoretical location of the quadrangles was computed. Occasionally, USGS actual quadrangles depart from a completely

rectangular format, mainly because of map sheet production considerations. Especially near shorelines, this results in offset, over edge, and insert sheet layouts. These are not represented precisely by the ArcUSA grid, but the correct attribute information is included. The USGS Topographic Names database was used as the source for quadrangle names and the geographic coordinates that were used to calculate the identification number for each map. The ArcUSA map edition numbers, publication dates, and state FIPS codes were derived from the USGS Published Map Sheet File. Indexes are current to 1986. The generated indexes were spot checked visually to verify the validity of the generated quadrangle coordinates.

The Landsat Nominal Scene Index was generated mathematically by using the nominal scene center points and an algorithm provided by EOSAT. The nominal scene index generated by the algorithm was spot checked visually to verify the validity of the scene footprints.

Data derived from U.S. Government tabular files

The state and county statistical attribute layers are a combination of the cartography presented in the layers for State and County Boundaries and an additional set of statistical attributes. The attributes were derived from the Census of Population and Housing, 1990; the Digital County and City Data Book, 1988; the U.S. Census of Agriculture, Tables 1 and 2, 1987; and the Oak Ridge National Laboratory GeoEcology Database, 1967–1979. Each of these sources was acquired by ESRI as flat ASCII files, which were loaded into INFO after empty INFO templates with the appropriate field widths were prepared. Each of these tables was linked to the State and County Boundaries coverages through state and county FIPS codes.

Positional accuracy

The positional accuracy of the ArcUSA 1:2M database is affected by the accuracy of sources of cartographic data, the USGS DLGs, and the ArcWorld data. The accuracy of the database components that originated in the USGS DLGs can be inferred to have the same accuracy as the original plus the cumulative effects of the data processing performed at ESRI. The original DLG data met the criteria for inclusion in the National Digital Cartographic Database:

"90 percent of a minimum of 20 tested points must be within plus or minus .005 inch (.127 mm) from the true (correct) position of the map feature as indicated on the stable base copy of the USGS source graphic." The original USGS source conformed to the requirement that 90% of the well-defined points tested be in error by no more than 1/30 in (0.85 mm). A root-sum-square calculation indicates that the expected positional error of the DLGs is 0.034 in (0.86 mm), or a ground distance of 1720 m. Additional ESRI processes that could introduce error include the application of "fuzzy" tolerances of 50.8 m. Fuzzy tolerances have the potential of offsetting lines from their original positions by the amount specified, although the effects are extremely localized. Therefore, a conservative estimate of the accuracy of the ArcUSA 1:2M data derived from the DLGs is $SQRT[(1720\ m)^2 + 2*(50.8\ m)^2]$ or 1722 m.

The positional accuracy of the ArcWorld 1:3M data is not known. No detailed evaluation of the positional accuracy of this database has been made, and knowledge of the source of the WDBII data is insufficient to make a determination in this regard.

Attribute accuracy

The accuracy of most attributes in the ArcUSA 1:2M database has not been explicitly tested against independent sources. However, all of the data have been reviewed for anomalous visual patterns both on line and in hard copy. Before attribute restructuring (into the 1:2M design), road, rail, and drainage features were plotted (with various attribute combinations symbolized) and reviewed against source lithographs for consistency in attribute coding.

Logical consistency

All data were found to be topologically correct using ARC/INFO Rev. 5.0.1. No duplicate features are present. All polygons are closed, and all lines intersect where intended. No undershoots or overshoots are present.

Completeness

The ArcUSA data were closely reviewed to ensure completeness of shorelines and of state and county boundaries. River and road layer completeness is less well defined, since cartographic judgment has been used to create a visually pleasing product. Statistical data are incomplete in the sense that selected records in the database may not have data for some attributes.

ArcUSA 1:25M data

Summary of ArcUSA 1:25M characteristics

The 1:25M data set is intended to serve as a basemap for display and analysis at very small scales. Its smaller file size and coordinate density also allow for more rapid drawing when viewed graphically.

ArcUSA data at the scale of 1:25,000,000 consist of the following layers:

- Cities
- County Boundaries
- Rivers
- Roads
- Land/Ocean Display
- Map Elements
- State Boundaries
- State and County Statistical Attributes

The ArcUSA 1:25M coverages have the characteristics shown in the following tables:

Characteristic	ArcUSA coverage characteristics
Format	ARC/INFO coverages
Input scale	1:25,000,000
Resolution: Lines Polygons	 50.8 m 5.1 sq km
Resolution of statistical data	To county level
Generalization tolerance	500 m
Feature classes	Polygon, line
Feature attribute tables	Polygon, arc
Database normalization status	Unnormalized (repeating records exist)
Number of layers: Cartographic Statistical attribute	 7 (7 coverages) 2 (2 coverages)

Characteristic	ArcUSA coverage characteristics
Attribute types	Measurement (interval or ordinal values) Suppressed values: 0, -1, -2, -3, -4, -5, -6 Missing values: 0 Code (numeric or alphabetic codes) Null values (numeric): 9, 99, 999, 9999 Not applicable values (alphabetic): blanks Name (alphabetic or alphanumeric names) Missing values: blanks
Naming conventions: Coverages Tables Attributes	 10 alphanumeric characters (only "A-Z", "1-9" or "_" allowed) 10 primary and 3 extension alphanumeric characters (xxxxxxxx.PAT or .AAT with "A-Z", "1-9" or "_" allowed) 10 alphanumeric characters
Indexing	Tabular (all attributes sorted by value) Spatial (all coverages spatially subdivided into quadrangles by feature density)
Projection system	Albers Conic Equal Area Standard parallels: 25^{o} 30' N, 45^{o} 30' N Origin: 96^{o} 00' W, 23^{o} 00' N
Units of measure	Meters
Horizontal datum	NAD 1927 (horizontal)
Vertical datum	Not applicable
Coordinate precision	Single (coordinates rounded to the nearest meter)

Lineage

The lineage of ArcUSA 1:25M data includes three main sources:

- Data derived primarily from 1:2,000,000-scale USGS DLG
- Data derived from ESRI's ArcWorld 1:3M database
- Data derived from tabular files published by the U.S. Bureau of the Census

ArcUSA 1:25M coverages are generally derived from a combination of these sources.

Data derived from USGS Digital Line Graphs

State boundaries, county boundaries, rivers, and roads layers were all derived from USGS 1:2,000,000-scale DLG. The original data were dated 1973, although ESRI has updated the county data to 1988. DLG data are distributed in distinct thematic coverages whose extent corresponds to the National Atlas Sectional Maps, a 1:2,000,000-scale hard copy map series produced by the USGS. Production processes for creating the ArcUSA 1:2M data set are described in detail in the lineage section for the 1:2M data.

Following processing of the 1:2M coverages, the data were subjected to a generalization process to create the 1:25M coverages. All polygonal features less than 5.1 sq km in area were eliminated from the database. No elimination of line features based on minimum length criteria was performed. Lines were subjected to a coordinate generalization process using the ARC GENERALIZE command with a tolerance of 500 m. Thematic simplification rules were also applied to the Roads and Rivers coverages by eliminating certain codes. For example, all road features were eliminated with the exception of interstate highways and interstate highway connectors. After the 1:25M data were reviewed, some additional features were eliminated from the most dense regions, particularly in and around major metropolitan areas. This last step was performed to support the effective cartographic display of the data. River features were originally limited to the centerlines of double line features present in the original DLG data. This criterion, however, did not result in a consistent river network. As a result, cartographic judgment was used to eliminate and to add features to create a more pleasing appearance and to provide a more even distribution of features across the database.

Data derived from ArcWorld 1:3M data

The Land/Ocean Display coverage is the only 1:25M coverage derived from ESRI's ArcWorld database. The initial creation of this coverage was identical to the creation of the 1:2M Land/Ocean Display coverage (see the explanation on p. A-12). These have been further generalized using the ARC GENERALIZE command with a tolerance of 500 m. Additionally, extraneous attribute items have been dropped to conform to the ArcUSA 1:25M database specification.

Data derived from U.S. Government tabular files

The Statistical Attributes layer is a combination of the same cartography as that presented in the State and County Boundaries layers, and an additional set of statistical attributes. The attributes were derived from the 1:2M state and county statistical attribute layers (see p. A-13). The ArcUSA 1:25M version has significantly fewer attributes than the fully detailed 1:2M version.

Positional accuracy

The positional accuracy of the ArcUSA 1:25M database is affected by the accuracy of the two primary sources of cartographic data, the USGS DLGs and the ArcWorld data. The accuracy of the database components that originated in the USGS DLGs can be inferred to have the same accuracy as the original plus the cumulative effects of the data processing performed by ESRI. The original DLG data met the criteria for inclusion in the National Digital Cartographic Database: "90 percent of a minimum of 20 tested points must be within plus or minus .005 inch (.127 mm) from the true (correct) position of the map feature as indicated on the stable base copy of the USGS source graphic." The original USGS source conformed to the requirement that 90% of the well-defined points tested be in error by no more than 1/30 in (0.85 mm). A root-sum-square calculation indicates that the expected positional error of the 1:2M DLGs is 0.034 in (0.86 mm), or a ground distance of 1720 m. Additional ESRI processes that could introduce error include two applications of "fuzzy" tolerances at 50.8 m. Fuzzy tolerances have the potential of offsetting lines from their original positions by the amount specified, although the effects are extremely localized.

A more significant effect on positional accuracy is the use of the ARC GENERALIZE command, which uses a Douglas-Peuker algorithm to remove vertices along arcs. The tolerance used in this command (500 m) represents a true offsetting of lines from their original positions. Therefore, a conservative estimate of the accuracy of the ArcUSA 1:2M data derived from the DLG 1:2M (using a root-sum-square calculation) is
SQRT[(1720 m)^2 + 2*(50.8 m)^2 + (500 m)^2] or 1792 m.

The positional accuracy of the ArcWorld 1:3M data is not known. No detailed evaluation of the positional accuracy of this database has been made, and knowledge of the source of the WDBII data is insufficient to make a determination in this regard.

Attribute accuracy

The accuracy of most attributes in the ArcUSA 1:25M database has not been explicitly tested against independent sources. However, all of the data have been reviewed for anomalous visual patterns both on line and in hard copy. Before generalization and attribute restructuring (into the 1:25M design), road, rail, and drainage features were plotted (with various attribute combinations symbolized) and reviewed against source lithographs for consistency in attribute coding. After generalization and attribute restructuring, the data were again subjected to the same process at the smaller scale.

Logical consistency

All data were found to be topologically correct using ARC/INFO Rev. 6.0.1. No duplicate features are present. All polygons are closed, and all lines intersect where intended. No undershoots or overshoots are present.

Completeness

The ArcUSA data were closely reviewed to ensure completeness of shorelines and of state and county boundaries. River and road layer completeness are less well defined, since some cartographic judgment has been used to create a visually pleasing product. Statistical data are incomplete in the sense that selected records in the database may be not have data for some attributes.

Appendix B

ArcUSA item definitions

The tables in this appendix present the definition of each item in the ArcUSA database. The sample feature attribute tables immediately below illustrate the way in which the item definitions are presented. The columns in all tables are the same, but the ARC/INFO-generated items for point and polygon features differ somewhat from the ARC/INFO-generated items for line features. The notes below the sample tables provide information about these and other table characteristics.

Item definitions are presented for each set of ArcUSA coverages. The coverages appear in the same order as in Chapters 4 and 5: first the 1:2M cartographic, index, and statistical attribute layers, and then the 1:25M layers. In order to reduce repetition, the ARC/INFO-generated items are omitted from the feature attribute tables in this appendix.

Polygon (or point) feature tables

Coverage Names:[1] FTP2M, FTP2M_N, FTP2M_S, FTP2M_W
Layer Type:[2] Polygon (or Point)

Polygon (or Point) Attribute Table

		dBASE Columns		INFO Items	
Item Description[3,4]	Item Name[5]	Begin Column[6]	Column Definition[7]	Begin Column[8]	Item Definition[9]
Area	AREA	1	13,N,6	1	4,12,F,3
Perimeter	PERIMETER	14	13,N,6	5	4,12,F,3
Arc Internal Number	(coverage name)#	27	11,N,0	9	4,5,B
User Assignable ID	(coverage name)-ID	38	11,N,0	13	4,5,B

Line feature tables

Coverage Names:[1] FTA2M, FTA2M_N, FTA2M_S, FTA2M_W
Layer Type:[2] Line

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description[3,4]	Item Name[5]	Begin Column[6]	Column Definition[7]	Begin Column[8]	Item Definition[9]
From Node Number	FNODE#	1	11,N,0	1	4,5,B
To Node Number	TNODE#	12	11,N,0	5	4,5,B
Left Polygon Number	LPOLY#	23	11,N,0	9	4,5,B
Right Polygon Number	RPOLY#	34	11,N,0	13	4,5,B
Arc Length	LENGTH	45	13,N,6	17	4,12,F,3
Arc Internal Number	(coverage name)#	58	11,N,0	21	4,5,B
User Assignable ID	(coverage name)-ID	69	11,N,0	25	4,5,B

Notes:

1. The coverage directory names. For the ArcUSA 1:2M database, the first coverage listed is for the full U.S. coverage. The next three coverages listed represent the north, south, and west regions, respectively. (The final letter of the regional coverages designates the region.) Where both state- and county-level coverages exist for a particular layer, the letter "S" designates state, and "C" designates county.

2. The type of coverage. Coverages that contain only polygons, lines (arcs), or points require only one feature attribute table. Many of the ArcUSA coverages contain both polygon and line features and thus require two feature attribute tables.

3. A brief descriptive variable (item) name. The attribute descriptions in Chapters 4 and 5 provide complete definitions for the attributes and the attribute codes.

4. In all feature attribute tables, the first few items are generated automatically by the ARC/INFO software.

   In a Polygon Attribute Table (PAT), four items are software generated. The four items and their definitions are shown in the PAT example above.

   In a Point Attribute Table (PAT), the ARC/INFO-generated items are the same as in a polygon attribute table, and the area and perimeters are set to zero. Although some documentation refers to the point attribute table as XAT to differentiate it from the polygon attribute table, INFO software does not distinguish between point and polygon attribute

tables, and so polygons and points cannot be combined in one coverage, nor can point and polygon coverages have the same name.

In an Arc Attribute Table (AAT), seven items are assigned automatically. The seven items and their definitions are shown in the sample AAT above.

5. The defined variable (item) name. INFO or dBASE uses this name to read the item. In INFO, the item name may be up to sixteen characters long, may not include spaces, must begin with a letter, and is case sensitive. Because dBASE has slightly different requirements for the defined item names, the "#" in the INFO software-generated item names is replaced with an underscore "_" in the dBASE tables. The remaining item names in the ArcUSA database have been limited to ten alphanumeric characters so that names are identical in both formats.

6. In the dBASE columns, the Begin Column entry defines the column in which the variable begins. A dBASE record may be up to 4,000 bytes, or 128 items wide (whichever comes first).

7. A dBASE column definition has four elements:
    a. Item name (see note 5)
    b. Item width—the number of bytes needed to store the variable
    c. Item type—may be N, for numeric, or C, for character
    d. Number of displayed decimal places (for item type N)

8. In the INFO Items columns, the Begin Column entry defines the column in which the variable begins. An INFO record may be 4,096 columns (bytes) wide. This limit applies also to related records, so the combined length of selected and related records cannot exceed 4,096. (There are no related items in the ArcUSA 1:2M and ArcUSA 1:25M databases as they are delivered.)

9. An INFO item definition has five elements:
    a. Item name (see note 5)
    b. Item width—the number of bytes needed to store the variable
    c. Output width—the number of columns needed to display the item value
    d. Item type—may be B, for binary; C, for character; F, for floating decimal; I, for integer; or N, for numeric
    e. Number of displayed decimal places (for item types F, N, and on some platforms, B)

County Boundaries

Coverage Name: CTY2M
Layer Type: Polygon and Line

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
County FIPS Code	CNTY_FIPS	52	3,N,0	20	3,3,I
Combined FIPS Code	FIPS	55	6,C,0	23	6,6,I
State Name	STATE_NAME	61	20,C,0	29	20,20,C
County Name	CNTY_NAME	81	32,C,0	49	32,32,C
U.S. Subregion Code	SUB_REGION	113	7,C,0	81	7,7,C
Statistical Flag	STAT_FLAG	120	1,N,0	88	1,1,I

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Left State FIPS Code	L_ST_FIPS	80	3,N,0	29	3,3,I
Right State FIPS Code	R_ST_FIPS	83	3,N,0	32	3,3,I
Adjacent States	ST_NAMES	86	41,C,0	35	41,41,C
Boundary Type Code	BNDY_TYPE	127	11,N,0	76	4,5,B

Federal Lands

Coverage Name: FED2M
Layer Type: Polygon

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item_Description	Item_Name	Begin Column	Column Definition	Begin Column	Item Definition
Federal Land Type Code One	TYPE1	49	1,N,0	17	1,1,I
Type Code One Name	ADMN_TYPE1	50	28,C,0	18	28,28,C
Federal Land Type Code Two	TYPE2	78	1,N,0	46	1,1,I
Type Code Two Name	ADMN_TYPE2	79	28,C,0	47	28,28,C
Federal Land Type Code Three	TYPE3	107	1,N,0	75	1,1,I
Type Code Three Name	ADMN_TYPE3	108	28,C,0	76	28,28,C
State FIPS Code	STATE_FIPS	136	3,N,0	104	3,3,I
State Name	STATE_NAME	139	20,C,0	107	20,20,C
U.S. Subregion Code	SUB_REGION	159	7,C,0	127	7,7,C

Lakes and Other Water Bodies

Coverage Names: LAK2M, LAK2M_N, LAK2M_S, LAK2M_W
Layer Type: Polygon

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Waterbody Classification Code	TYPE	49	1,N,0	17	1,1,I
Waterbody Code Name	WATER_TYPE	50	25,C,0	18	25,25,C
State FIPS Code	STATE_FIPS	75	3,N,0	43	3,3,I
State Name	STATE_NAME	78	20,C,0	46	20,20,C
U.S. Subregion Code	SUB_REGION	98	7,C,0	66	7,7,C

Land/Ocean Display

Coverage Name: LAND2M
Layer Type: Polygon and Line

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Land/Water Identifier	LND_WAT	49	5,C,0	17	5,5,C

Annotation: Includes country, water body, and other major place names.

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Feature/Grid Identifier	BND_GRID	80	1,N,0	29	1,1,I

Map Elements

Coverage Name: SC_2M
Layer Type: Polygon and Line

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Fill Area Code	FILL	49	2,N,0	17	2,2,I

Annotation: Includes labels for scale bar, North arrow, and display title.

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition

All items are ARC/INFO generated.

Place Names

Coverage Name: NAM2M
Layer Type: Point

Point Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Name of Feature	NAME	49	51,C,0	17	51,51,C
Feature Type	FEAT_TYPE	100	11,C,0	68	11,11,C
Major City Code	MAJ_CITY	111	1,N,0	79	1,1,I
Capital Code	CAPITAL	112	1,N,0	80	1,1,I
County Seat Code	CTY_SEAT	113	1,N,0	81	1,1,I
Elevation of Feature	ELEVATION	114	6,N,0	82	6,6,I
County Name	CNTY_NAME	120	31,C,0	88	31,31,C
State FIPS Code	STATE_FIPS	151	3,N,0	119	3,3,I
State Name	STATE_NAME	154	16,C,0	122	16,16,C
U.S. Subregion Code	SUB_REGION	170	7,C,0	138	7,7,C

Railroads

Coverage Name: RR2M
Layer Type: Line

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Rail Line Classification	TYPE	80	1,N,0	29	1,1,I
Rail Line Class Name	RAIL_TYPE	81	72,C,0	30	72,72,C
State FIPS Code	STATE_FIPS	153	3,N,0	102	3,3,I
State Name	STATE_NAME	156	20,C,0	105	20,20,C
U.S. Subregion Code	SUB_REGION	176	7,C,0	125	7,7,C

Rivers and Streams

Coverage Name: RIV2M
Layer Type: Line

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
River Classification Code	TYPE	80	4,N,0	29	4,4,I
River Classification Code Name	RIVER_TYPE	84	38,C,0	33	38,38,C
State FIPS Code	STATE_FIPS	122	3,N,0	71	3,3,I
State Name	STATE_NAME	125	20,C,0	74	20,20,C
U.S. Subregion Code	SUB_REGION	145	7,C,0	94	7,7,C

Roads

Coverage Name: RDS2M
Layer Type: Line

Arc Attribute Table

		dBASE Columns		INFO Items	
Item_Description	Item_Name	Begin Column	Column Definition	Begin Column	Item Definition
Simplified Road Class	ESRI_CLASS	80	2,N,0	29	2,2,I
Road Class Name	ROAD_CLASS	82	38,C,0	31	38,38,C
Road Class One	CLASS1	120	2,N,0	69	2,2,I
Road Class One Name	DLG_CLASS1	122	64,C,0	71	64,64,C
Road Class Two	CLASS2	186	2,N,0	135	2,2,I
Road Class Two Name	DLG_CLASS2	188	64,C,0	137	64,64,C
Road Class Three	CLASS3	252	2,N,0	201	2,2,I
Road Class Three Name	DLG_CLASS3	254	64,C,0	203	64,64,C
Federal Interstate Route #1	INTER-RTE1	318	3,N,0	267	3,3,I
Federal Interstate Route #2	INTER-RTE2	321	3,N,0	270	3,3,I
Federal Interstate Route #3	INTER-RTE3	324	3,N,0	273	3,3,I
U.S. Route Number One	US_RTE1	327	3,N,0	276	3,3,I
U.S. Route Number Two	US_RTE2	330	3,N,0	279	3,3,I
U.S. Route Number Three	US_RTE3	333	3,N,0	282	3,3,I
U.S. Route Number Four	US_RTE4	336	3,N,0	285	3,3,I
State Route Number One	STATE_RTE1	339	3,N,0	288	3,3,I
State Route Number Two	STATE_RTE2	342	3,N,0	291	3,3,I
State Route Number Three	STATE_RTE3	345	3,N,0	204	3,3,I
State Route Number Four	STATE_RTE4	348	3,N,0	297	3,3,I
State FIPS Code	STATE_FIPS	351	3,N,0	300	3,3,I
State Name	STATE_NAME	354	20,C,0	303	20,20,C
U.S. Subregion Code	SUB_REGION	374	7,C,0	323	7,7,C

State Boundaries

Coverage Name: ST2M
Layer Type: Polygon and Line

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
State Name	STATE_NAME	52	20,C,0	20	20,20,C
U.S. Subregion Code	SUB_REGION	72	7,C,0	40	7,7,C
Statistical Flag	STAT_FLAG	79	1,N,0	47	1,1,I

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Left State FIPS Code	L_ST_FIPS	80	3,N,0	29	3,3,I
Right State FIPS Code	R_ST_FIPS	83	3,N,0	32	3,3,I
Adjacent States	ST_NAMES	86	41,C,0	35	41,41,C
Boundary Type Code	BNDY_TYPE	127	11,N,0	76	4,5,B

Landsat Nominal Scene Center Points

Coverage Name: SAT_PT
Layer Type: Point

Point Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Path Number	PATH	49	4,C,0	17	4,4,C
Row Number	ROW	53	4,C,0	21	4,4,C
Scene Center	SCN_CENTER	57	21,C,0	25	21,21,C
State FIPS Code One	ST_FIPS1	78	3,N,0	46	3,3,I
State Name One	ST_NAME1	81	20,C,0	49	20,20,C
State FIPS Code Two	ST_FIPS2	101	3,N,0	69	3,3,I
State Name Two	ST_NAME2	104	20,C,0	72	20,20,C
State FIPS Code Three	ST_FIPS3	124	3,N,0	92	3,3,I
State Name Three	ST_NAME3	127	20,C,0	95	20,20,C
State FIPS Code Four	ST_FIPS4	147	3,N,0	115	3,3,I
State Name Four	ST_NAME4	150	20,C,0	118	20,20,C
State FIPS Code Five	ST_FIPS5	170	3,N,0	138	3,3,I
State Name Five	ST_NAME5	173	20,C,0	141	20,20,C
State FIPS Code Six	ST_FIPS6	193	3,N,0	161	3,3,I
State Name Six	ST_NAME6	196	20,C,0	164	20,20,C

Landsat Nominal Scene Footprints

Coverage Name: SAT_BND
Layer Type: Line

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Path Number	PATH	80	4,C,0	29	4,4,C
Row Number	ROW	84	4,C,0	33	4,4,C
Scene Center	SCN_CENTER	88	21,C,0	37	21,21,C
State FIPS Code One	ST_FIPS1	109	3,N,0	58	3,3,I
State Name One	ST_NAME1	112	20,C,0	61	20,20,C

continued...

Landsat Nominal Scene Footprints, continued

Arc Attribute Table, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code Two	ST_FIPS2	132	3,N,0	81	3,3,I
State Name Two	ST_NAME2	135	20,C,0	84	20,20,C
State FIPS Code Three	ST_FIPS3	155	3,N,0	104	3,3,I
State Name Three	ST_NAME3	158	20,C,0	107	20,20,C
State FIPS Code Four	ST_FIPS4	178	3,N,0	127	3,3,I
State Name Four	ST_NAME4	181	20,C,0	130	20,20,C
State FIPS Code Five	ST_FIPS5	201	3,N,0	150	3,3,I
State Name Five	ST_NAME5	204	20,C,0	153	20,20,C
State FIPS Code Six	ST_FIPS6	224	3,N,0	150	3,3,I
State Name Six	ST_NAME6	227	20,C,0	153	20,20,C

Latitude/Longitude Grids

Coverage Names: LTLG2, LTLG5, LTLG10

Layer Type: Line

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Latitude	LATITUDE	80	4,C,0	29	4,4,C
Longitude	LONGITUDE	84	4,C,0	33	4,4,C
U.S./Non-U.S. Area Code	US_NONUS	88	1,N,0	37	1,1,I

USGS 1:24,000 Topographic Quadrangle Series

Coverage Names: Q_24K, Q_24KN, Q_24KS, Q_24KW
Layer Type: Polygon

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
USGS Quadrangle ID Number	USGS_QD_ID	49	8,C,0	17	8,8,C
Quadrangle Name	QUAD_NAME	57	41,C,0	25	41,41,C
Map Edition Number	MAP_EDIT	98	1,C,0	66	1,1,C
State FIPS Code One	ST_FIPS1	99	3,N,0	67	3,3,I
State Name One	ST_NAME1	102	20,C,0	70	20,20,C
Area in State One	ST1_SQ_MI	122	2,N,0	90	2,2,I
State FIPS Code Two	ST_FIPS2	124	3,N,0	92	3,3,I
State Name Two	ST_NAME2	127	20,C,0	95	20,20,C
Area in State Two	ST2_SQ_MI	147	3,N,0	115	3,3,I
State FIPS Code Three	ST_FIPS3	150	3,N,0	118	3,3,I
State Name Three	ST_NAME3	153	20,C,0	121	20,20,C
Area in State Three	ST3_SQ_MI	173	3,N,0	141	3,3,I
State FIPS Code Four	ST_FIPS4	176	3,N,0	144	3,3,I
State Name Four	ST_NAME4	179	20,C,0	147	20,20,C
Area in State Four	ST4_SQ_MI	199	2,N,0	167	2,2,I
Total Quadrangle Area	TOT_Q_SQMI	201	3,N,0	169	3,3,I
Date of Revision	DATE_REV	204	2,C,0	172	2,2,C
Date of Publication	DATE_PUB	206	2,C,0	174	2,2,C
Date of Photo Revision	PHOTO_R_DT	208	4,C,0	176	4,4,C

USGS 1:100,000 Topographic Quadrangle Series

Coverage Name: Q_100K
Layer Type: Polygon

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
USGS Quadrangle ID Number	USGS_QD_ID	49	8,C,0	17	8,8,C
Quadrangle Name	QUAD_NAME	57	32,C,0	25	32,32,C
Map Edition Number	MAP_EDIT	89	1,C,0	57	1,1,C
State FIPS Code One	ST_FIPS1	90	3,N,0	58	3,3,I
State Name One	ST_NAME1	93	20,C,0	61	20,20,C
State FIPS Code Two	ST_FIPS2	113	3,N,0	81	3,3,I
State Name Two	ST_NAME2	116	20,C,0	84	20,20,C
State FIPS Code Three	ST_FIPS3	136	3,N,0	104	3,3,I
State Name Three	ST_NAME3	139	20,C,0	107	20,20,C
State FIPS Code Four	ST_FIPS4	159	3,N,0	127	3,3,I
State Name Four	ST_NAME4	162	20,C,0	130	20,20,C
Date of Publication	DATE_PUB	182	2,C,0	150	2,2,C

USGS 1:250,000 Topographic Quadrangle Series

Coverage Name: Q_250K
Layer Type: Polygon

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
USGS Quadrangle ID Number	USGS_QD_ID	49	8,C,0	17	8,8,C
Quadrangle Name	QUAD_NAME	57	20,C,0	25	20,20,C
Map Edition Number	MAP_EDIT	77	1,C,0	45	1,1,C
State FIPS Code One	ST_FIPS1	78	3,N,0	46	3,3,I
State Name One	ST_NAME1	81	20,C,0	49	20,20,C
State FIPS Code Two	ST_FIPS2	101	3,N,0	69	3,3,I
State Name Two	ST_NAME2	104	20,C,0	72	20,20,C
State FIPS Code Three	ST_FIPS3	124	3,N,0	92	3,3,I
State Name Three	ST_NAME3	127	20,C,0	95	20,20,C
State FIPS Code Four	ST_FIPS4	147	3,N,0	115	3,3,I
State Name Four	ST_NAME4	150	20,C,0	118	20,20,C
Date of Revision	DATE_REV	170	2,C,0	138	2,2,C
Date of Publication	DATE_PUB	172	2,C,0	140	2,2,C

1990 U.S. Census, Public Law 94-171 Data

Coverage Names: POP90S, POP90C
Layer Type: Polygon and Line

Polygon Attribute Table—State-Level Coverage

		dBASE Columns		INFO Items	
Item_Description	Item_Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
State Name	STATE_NAME	52	20,C,0	20	20,20,C
U.S. Subregion Code	SUB_REGION	72	7,C,0	40	7,7,C
Statistical Flag	STAT_FLAG	79	1,N,0	47	1,1,I
Total 1990 Population	POP1990	80	11,N,0	48	4,9,B
1990 Pop. per Square Mile	POP90_SQMI	91	13,N,6	52	4,9,F,2
Total White	WHITE	104	11,N,0	56	4,9,B
Percent White	P_WHITE	115	13,N,6	60	4,6,F,2
Total Black	BLACK	128	11,N,0	64	4,9,B
Percent Black	P_BLACK	139	13,N,6	68	4,5,F,2
Total American Indian	AMERIND	152	11,N,0	72	4,9,B
Percent American Indian	P_AMERIND	163	13,N,6	76	4,5,F,2
Total Asian	ASIAN	176	11,N,0	80	4,9,B
Percent Asian	P-ASIAN	187	13,N,6	84	4,5,F,2
Total Other	OTHER	200	11,N,0	88	4,9,B
Percent Other	P_OTHER	211	13,N,6	92	4,5,F,2
Total 18 Years and Older	TOTAL18	224	11,N,0	96	4,9,B
Percent 18+ of Total Pop.	P_TOTAL18	235	13,N,6	100	4,5,F,2
White 18+	WHITE18	248	11,N,0	104	4,9,B
Percent White 18+	P_WHITE18	259	13,N,6	108	4,5,F,2
Black 18+	BLACK18	272	11,N,0	112	4,9,B
Percent Black 18+	P_BLACK18	283	13,N,6	116	4,5,F,2
American Ind. 18+	AMERIN18	296	11,N,0	120	4,9,B
Percent Amer. Ind. 18+	P_AMERIN18	307	13,N,6	124	4,5,F,2
Asian 18+	ASIAN18	320	11,N,0	128	4,9,B
Percent Asian 18+	P_ASIAN18	331	13,N,6	132	4,5,F,2
Other 18+	OTHER18	344	11,N,0	136	4,9,B
Percent Other 18+	P_OTHER18	355	13,N,6	140	4,5,F,2
Total Hispanic	HISPANIC	368	11,N,0	144	4,9,B
Percent Hispanic of Total Pop.	P_HISPANIC	379	13,N,6	148	4,5,F,2
Total Non-Hispanic	NHISPAN	392	11,N,0	152	4,9,B
Percent Non-Hispanic	P_NHISPAN	403	13,N,6	156	4,6,F,2
Non-Hispanic White	NHWHITE	416	11,N,0	160	4,9,B

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1990 U.S. Census, Public Law 94-171 Data, continued

Polygon Attribute Table—State-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Percent Non-Hispanic White	P_NHWHITE	427	13,N,6	164	4,6,F,2
Non-Hispanic Black	NHBLACK	440	11,N,0	168	4,9,B
Percent Non-Hispanic Black	P_NHBLACK	451	13,N,6	172	4,5,F,2
Non-Hispanic Amer. Ind.	NHAMIND	464	11,N,0	176	4,9,B
Percent Non-Hispanic Am. Ind.	P_NHAMIND	475	13,N,6	180	4,5,F,2
Non-Hispanic Asian	NHASIAN	488	11,N,0	184	4,9,B
Percent Non-Hispanic Asian	P_NHASIAN	499	13,N,6	188	4,5,F,2
Non-Hispanic Other	NHOTHER	512	11,N,0	192	4,9,B
Percent Non-Hispanic Other	P_NHOTHER	523	13,N,6	196	4,5,F,2
Total Hispanic 18 and older	HISPAN18	536	11,N,0	200	4,9,B
Percent Hispanic 18+	P_HISPAN18	547	13,N,6	204	4,5,F,2
Total Non-Hispanic 18+	NHISPN18	560	11,N,0	208	4,9,B
Percent Non-Hispanic 18+	P_NHISPN18	571	13,N,6	212	4,5,F,2
Non-Hispanic White 18+	NHWHIT18	584	11,N,0	216	4,9,B
% Non-Hispanic White 18+	P_NHWHIT18	595	13,N,6	220	4,6,F,2
Non-Hispanic Black 18+	NHBLK18	608	11,N,0	224	4,9,B
% Non-Hispanic Black 18+	P_NHBLK18	619	13,N,6	228	4,5,F,2
Non-Hispanic Am. Ind. 18+	NHAMIN18	632	11,N,0	232	4,9,B
% Non-Hisp. Am. Ind. 18+	P_NHAMIN18	643	13,N,6	236	4,5,F,2
Non-Hispanic Asian 18+	NHASIA18	656	11,N,0	240	4,9,B
% Non-Hispanic Asian 18+	P_NHASIA18	667	13,N,6	244	4,5,F,2
Non-Hispanic Other 18+	NHOTHE18	680	11,N,0	248	4,9,B
% Non-Hispanic Other 18+	P_NHOTHE18	691	13,N,6	252	4,5,F,2
Housing Units, 1990	HSE_UNITS	704	11,N,0	256	4,9,B

1990 U.S. Census, Public Law 94-171 Data, continued

Polygon Attribute Table—County-Level Coverage

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
County FIPS Code	CNTY_FIPS	52	3,N,0	20	3,3,I
Combined FIPS Code	FIPS	55	6,C,0	23	6,6,C
State Name	STATE_NAME	61	20,C,0	29	20,20,C
County Name	CNTY_NAME	81	32,C,0	49	32,32,C
U.S. Subregion Code	SUB_REGION	113	7,C,0	81	7,7,C
Statistical Flag	STAT_FLAG	120	1,N,0	88	1,1,I
Total 1990 Population	POP1990	121	11,N,0	89	4,9,B
1990 Pop. per Square Mile	POP90_SQMI	132	13,N,6	93	4,9,F,2
Total White	WHITE	145	11,N,0	97	4,9,B
Percent White	P_WHITE	156	13,N,6	101	4,6,F,2
Total Black	BLACK	169	11,N,0	105	4,9,B
Percent Black	P_BLACK	180	13,N,6	109	4,5,F,2
Total American Indian	AMERIND	193	11,N,0	113	4,9,B
Percent American Indian	P_AMERIND	204	13,N,6	117	4,5,F,2
Total Asian	ASIAN	217	11,N,0	121	4,9,B
Percent Asian	P_ASIAN	228	13,N,6	125	4,5,F,2
Total Other	OTHER	241	11,N,0	129	4,9,B
Percent Other	P_OTHER	252	13,N,6	133	4,5,F,2
Total 18 Years and Older	TOTAL18	265	11,N,0	137	4,9,B
Percent 18+ of Total Pop.	P_TOTAL18	276	13,N,6	141	4,5,F,2
White 18+	WHITE18	289	11,N,0	145	4,9,B
Percent White 18+	P_WHITE18	300	13,N,6	149	4,5,F,2
Black 18+	BLACK18	313	11,N,0	153	4,9,B
Percent Black 18+	P_BLACK18	324	13,N,6	157	4,5,F,2
American Ind 18+	AMERIN18	337	11,N,0	161	4,9,B
Percent Amer. Ind. 18+	P_AMERIN18	348	13,N,6	165	4,5,F,2
Asian 18+	ASIAN18	361	11,N,0	169	4,9,B
Percent Asian 18+	P_ASIAN18	372	13,N,6	173	4,5,F,2
Other 18+	OTHER18	385	11,N,0	177	4,9,B
Percent Other 18+	P_OTHER18	396	13,N,6	181	4,5,F,2
Total Hispanic	HISPANIC	409	11,N,0	185	4,9,B
Percent Hispanic of Total Pop.	P_HISPANIC	420	13,N,6	189	4,5,F,2
Total Non-Hispanic	NHISPAN	433	11,N,0	193	4,9,B
Percent Non-Hispanic	P_NHISPAN	444	13,N,6	197	4,6,F,2

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1990 U.S. Census, Public Law 94-171 Data, continued

Polygon Attribute Table—County-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Non-Hispanic White	NHWHITE	457	11,N,0	201	4,9,B
Percent Non-Hispanic White	P_NHWHITE	468	13,N,6	205	4,5,F,2
Non-Hispanic Black	NHBLACK	481	11,N,0	209	4,9,B
Percent Non-Hispanic Black	P_NHBLACK	492	13,N,6	213	4,5,F,2
Non-Hispanic Amer. Ind.	NHAMIND	505	11,N,0	217	4,9,B
Percent Non-Hispanic Am. Ind.	P_NHAMIND	516	13,N,6	221	4,5,F,2
Non-Hispanic Asian	NHASIAN	529	11,N,0	225	4,9,B
Percent Non-Hispanic Asian	P_NHASIAN	540	13,N,6	229	4,5,F,2
Non-Hispanic Other	NHOTHER	553	11,N,0	233	4,9,B
Percent Non-Hispanic Other	P_NHOTHER	564	13,N,6	237	4,5,F,2
Total Hispanic 18 Years and Older	HISPAN18	577	11,N,0	241	4,9,B
Percent Hispanic 18+	P_HISPAN18	588	13,N,6	245	4,5,F,2
Total Non-Hispanic 18+	NHISPN18	601	11,N,0	249	4,9,B
Percent Non-Hispanic 18+	P_NHISPN18	612	13,N,6	253	4,5,F,2
Non-Hispanic White 18+	NHWHIT18	625	11,N,0	257	4,9,B
% Non-Hispanic White 18+	P_NHWHIT18	636	13,N,6	261	4,6,F,2
Non-Hispanic Black 18+	NHBLK18	649	11,N,0	265	4,9,B
% Non-Hispanic Black 18+	P_NHBLK18	660	13,N,6	269	4,5,F,2
Non-Hispanic Am. Ind. 18+	NHAMIN18	673	11,N,0	273	4,9,B
% Non-Hisp. Am. Ind. 18+	P_NHAMIN18	684	13,N,6	277	4,5,F,2
Non-Hispanic Asian 18+	NHASIA18	697	11,N,0	281	4,9,B
% Non-Hispanic Asian 18+	P_NHASIA18	708	13,N,6	285	4,5,F,2
Non-Hispanic Other 18+	NHOTHE18	721	11,N,0	289	4,9,B
% Non-Hispanic Other 18+	P_NHOTHE18	732	13,N,6	293	4,5,F,2
Housing Units, 1990	HSE_UNITS	745	11,N,0	297	4,9,B

1990 U.S. Census, Public Law 94-171 Data, continued

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Left State FIPS Code	L_ST_FIPS	80	3,N,0	29	3,3,I
Right State FIPS Code	R_ST_FIPS	83	3,N,0	32	3,3,I
Adjacent States	ST_NAMES	86	41,C,0	35	41,41,C
Boundary Type Code	BNDY_TYPE	127	11,N,0	76	4,5,B

***Note**: The state-level and county-level AATs are identical.*

Agricultural Product Inventory

Coverage Names: AGIN_S, AGIN_C
Layer Type: Polygon and Line

Polygon Attribute Table—State-Level Coverage

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
State Name	STATE_NAME	52	20,C,0	20	20,20,C
U.S. Subregion Code	SUB_REGION	72	7,C,0	40	7,7,C
Statistical Flag	STAT_FLAG	79	1,N,0	47	1,1,I
Number of Farms	NO_FARMS	80	17,N,6	48	8,11,F,0
Acres of Farmland	FARM_ACRES	97	17,N,6	56	8,11,F,0
Average Farm Size in Acres	AVG_SIZE	114	17,N,6	64	8,11,F,0
Value of Land, etc. per Farm	LAND_BLD_F	131	17,N,6	72	8,11,F,0
Value of Land, etc. per Acre	LAND_BLD_A	148	17,N,6	80	8,11,F,0
Value of Machinery per Farm	MACHINE_F	165	17,N,6	88	8,11,F,0
Farms 1 to 9 Acres in Size	F_1_9ACRE	182	17,N,6	96	8,11,F,0
Farms 10 to 49 Acres in Size	F_10_49	199	17,N,6	104	8,11,F,0
Farms 50 to 179 Acres in Size	F_50_179	216	17,N,6	112	8,11,F,0
Farms 180 to 499 Acres in Size	F_180_499	233	17,N,6	120	8,11,F,0
Farms 500 to 999 Acres in Size	F_500_999	250	17,N,6	128	8,11,F,0
Farms Over 999 Acres in Size	F_OVER_999	267	17,N,6	136	8,11,F,0

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Agricultural Product Inventory, continued

Polygon Attribute Table—State-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
No. of Farms with Cropland	CROP_FARMS	284	17,N,6	144	8,11,F,0
Cropland, in Acres	CROP_ACRES	301	17,N,6	152	8,11,F,0
Farms with Harvested Cropland	HARVSTED_F	318	17,N,6	160	8,11,F,0
Harvested Cropland, in Acres	HARVSTED_A	335	17,N,6	168	8,11,F,0
Farms with Irrigated Land	IRRIGATE_F	352	17,N,6	176	8,11,F,0
Irrigated Land, in Acres	IRRIGATE_A	369	17,N,6	184	8,11,F,0
Value of Crops Sold ($1,000)	VAL_CROPS	386	17,N,6	192	8,11,F,0
Value of Livestock, etc. Sold	VAL_ANIMAL	403	17,N,6	200	8,11,F,0
Farmer as Principal Occupation	FARMERS	420	17,N,6	208	8,11,F,0
Farmer as Other Occupation	OTH_OPERS	437	17,N,6	216	8,11,F,0
Farmers with Days Off Farm	OTHJOB_ANY	454	17,N,6	224	8,11,F,0
Farmers with 200+ Days Off	OTHJOB_200	471	17,N,6	232	8,11,F,0
Average Age of Farmers	AVG_AGE	488	17,N,6	240	8,11,F,1
Farm Expenses ($1,000)	PROD_EXP	505	17,N,6	248	8,11,F,0
Avg. Expenses per Farm	AVG_EXP	522	17,N,6	256	8,11,F,0
Farms with Cattle and Calves	CATTLEFARM	539	17,N,6	264	8,11,F,0
Number of Cattle and Calves	CATTLE	556	17,N,6	272	8,11,F,0
Farms with Beef Cows	BEEFFARMS	573	17,N,6	280	8,11,F,0
Number of Beef Cows	BEEFCOWS	590	17,N,6	288	8,11,F,0
Farms with Dairy Cows	MILKFARMS	607	17,N,6	296	8,11,F,0
Number of Dairy Cows	MILKCOWS	624	17,N,6	304	8,11,F,0
Farms Selling Cattle & Calves	COWSOLDFAR	641	17,N,6	312	8,11,F,0
No. of Cattle and Calves Sold	CATTLESOLD	658	17,N,6	320	8,11,F,0
Farms with Hogs and Pigs	HOGFARMS	675	17,N,6	328	8,11,F,0
Number of Hogs and Pigs	HOGS	692	17,N,6	336	8,11,F,0
Farms Selling Hogs and Pigs	HOGSOLDFAR	709	17,N,6	344	8,11,F,0
Number of Hogs and Pigs Sold	HOGS_SOLD	726	17,N,6	352	8,11,F,0
Farms with Sheep and Lambs	SHEEPFARMS	743	17,N,6	360	8,11,F,0
Number of Sheep and Lambs	SHEEP	760	17,N,6	368	8,11,F,0
Farms with Chickens	CHICKENFAR	777	17,N,6	376	8,11,F,0
Number of Chickens	CHICKENS	794	17,N,6	384	8,11,F,0
Farms Selling Broilers	BROILSLD_F	811	17,N,6	392	8,11,F,0
Number of Broilers Sold	BROIL_SOLD	828	17,N,6	400	8,11,F,0
Farms with Corn for Grain, etc.	CORNFARMS	845	17,N,6	408	8,11,F,0
Acres of Corn	CORNACRES	862	17,N,6	416	8,11,F,0
Bushels of Corn Harvested	CORN_BU	879	17,N,6	424	8,11,F,0

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Agricultural Product Inventory, continued

Polygon Attribute Table—State-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Farms with Corn for Silage	SILAGEFARM	896	17,N,6	432	8,11,F,0
Acres of Corn for Silage	SILAGEACRE	913	17,N,6	440	8,11,F,0
Tons of Corn Silage Produced	SILAGE_TON	930	17,N,6	448	8,11,F,0
Farms with Sorghum	SORGHMFARM	947	17,N,6	456	8,11,F,0
Acres of Sorghum	SORGHMACRE	964	17,N,6	464	8,11,F,0
Bushels of Sorghum Harvested	SORGHM_BU	981	17,N,6	472	8,11,F,0
Number of Farms with Wheat	WHEATFARMS	998	17,N,6	480	8,11,F,0
Acres of Wheat	WHEATACRES	1015	17,N,6	488	8,11,F,0
Bushels of Wheat Harvested	WHEAT_BU	1032	17,N,6	496	8,11,F,0
Farms with Barley	BARLEYFARM	1049	17,N,6	504	8,11,F,0
Acres of Barley	BARLEYACRE	1066	17,N,6	512	8,11,F,0
Bushels of Barley Harvested	BARLEY_BU	1083	17,N,6	520	8,11,F,0
Farms with Oats	OATSFARMS	1100	17,N,6	528	8,11,F,0
Acres of Oats	OATSACRES	1117	17,N,6	536	8,11,F,0
Bushels of Oats Harvested	OATS_BU	1134	17,N,6	544	8,11,F,0
Farms with Rice	RICEFARMS	1151	17,N,6	552	8,11,F,0
Acres of Rice	RICEACRES	1168	17,N,6	560	8,11,F,0
Rice Harvested (100 pounds)	RICE_CWT	1185	17,N,6	568	8,11,F,0
Farms with Sunflowers for Seed	SUNFLWFARM	1202	17,N,6	576	8,11,F,0
Acres of Sunflowers for Seed	SUNFLWACRE	1219	17,N,6	584	8,11,F,0
Pounds of Sunflower Seed	SUNFLW_LB	1236	17,N,6	592	8,11,F,0
Farms with Cotton	COTTONFARM	1253	17,N,6	600	8,11,F,0
Acres of Cotton	COTTONACRE	1270	17,N,6	608	8,11,F,0
Bales of Cotton Harvested	COTTONBALE	1287	17,N,6	616	8,11,F,0
Farms with Tobacco	TOBACOFARM	1304	17,N,6	624	8,11,F,0
Acres of Tobacco	TOBACOACRE	1321	17,N,6	632	8,11,F,0
Pounds of Tobacco Harvested	TOBACO_LB	1338	17,N,6	640	8,11,F,0
Farms with Soybeans for Beans	SOYBEANFAR	1355	17,N,6	648	8,11,F,0
Acres of Soybeans for Beans	SOYBEANACR	1372	17,N,6	656	8,11,F,0
Bushels of Soybeans	SOYBEAN_BU	1389	17,N,6	664	8,11,F,0
Farms with Dry Beans	DRYBEANFAR	1406	17,N,6	672	8,11,F,0
Acres of Dry Beans	DRYBEANACR	1423	17,N,6	680	8,11,F,0
Dry Beans Harvested (100 lbs.)	DRYBEANCWT	1440	17,N,6	688	8,11,F,0
Farms with Potatoes	POTATOFARM	1457	17,N,6	696	8,11,F,0
Acres of Potatoes	POTATOACRE	1474	17,N,6	704	8,11,F,0
Potatoes Harvested (100 lbs.)	POTATO_CWT	1491	17,N,6	712	8,11,F,0

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Agricultural Product Inventory, continued

Polygon Attribute Table—State-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Farms with Sugar Beets	SUGBEETFAR	1508	17,N,6	720	8,11,F,0
Acres of Sugar Beets	SUGBEETACR	1525	17,N,6	728	8,11,F,0
Tons of Sugar Beets Harvested	SUGBEETTON	1542	17,N,6	736	8,11,F,0
Farms with Sugar Cane	SUGCANEFAR	1559	17,N,6	744	8,11,F,0
Acres of Sugar Cane	SUGCANEACR	1576	17,N,6	752	8,11,F,0
Tons of Sugar Cane Harvested	SUGCANETON	1593	17,N,6	760	8,11,F,0
Farms with Pineapples	PINEAPLFAR	1610	17,N,6	768	8,11,F,0
Acres of Pineapples	PINEAPLACR	1627	17,N,6	776	8,11,F,0
Tons of Pineapples Harvested	PINEAPLTON	1644	17,N,6	784	8,11,F,0
Farms with Peanuts (for Nuts)	PEANUTFARM	1661	17,N,6	792	8,11,F,0
Acres of Peanuts	PEANUTACRE	1678	17,N,6	800	8,11,F,0
Pounds of Peanuts Harvested	PEANUT_LB	1695	17,N,6	808	8,11,F,0
Farms with Hay	HAYFARMS	1712	17,N,6	816	8,11,F,0
Acres of Hay	HAYACRES	1729	17,N,6	824	8,11,F,0
Tons of Hay Harvested	HAYTONS	1746	17,N,6	832	8,11,F,0
Farms with Vegetables	VEGFARMS	1763	17,N,6	840	8,11,F,0
Acres of Vegetables	VEGACRES	1780	17,N,6	848	8,11,F,0
Farms with Orchards	ORCHRDFARM	1797	17,N,6	856	8,11,F,0
Acres of Orchards	ORCHRDACRE	1814	17,N,6	864	8,11,F,0

Polygon Attribute Table—County-Level Coverage

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
County FIPS Code	CNTY_FIPS	52	3,N,0	20	3,3,I
Combine FIPS Code	FIPS	55	6,C,0	23	6,6,C
State Name	STATE_NAME	61	20,C,0	29	20,20,C
County Name	CNTY_NAME	81	32,C,0	49	32,32,C
U.S. Subregion Code	SUB_REGION	113	7,C,0	81	7,7,C
Statistical Flag	STAT_FLAG	120	1,N,0	88	1,1,I
Number of Farms	NO_FARMS	121	17,N,6	89	8,11,F,0
Acres of Farmland	FARM_ACRES	138	17,N,6	97	8,11,F,0

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Agricultural Product Inventory, continued

Polygon Attribute Table—County-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Average Farm Size in Acres	AVG_SIZE	155	17,N,6	105	8,11,F,0
Value of Land, etc. per Farm	LAND_BLD_F	172	17,N,6	113	8,11,F,0
Value of Land, etc. per Acre	LAND_BLD_A	189	17,N,6	121	8,11,F,0
Value of Machinery per Farm	MACHINE_F	206	17,N,6	129	8,11,F,0
Farms 1 to 9 Acres in Size	F_1_9ACRE	223	17,N,6	137	8,11,F,0
Farms 10 to 49 Acres in Size	F_10_49	240	17,N,6	145	8,11,F,0
Farms 50 to 179 Acres in Size	F_50_179	257	17,N,6	153	8,11,F,0
Farms 180 to 499 Acres in Size	F_180_499	274	17,N,6	161	8,11,F,0
Farms 500 to 999 Acres in Size	F_500_999	291	17,N,6	169	8,11,F,0
Farms Over 999 Acres in Size	F_OVER_999	308	17,N,6	177	8,11,F,0
No. of Farms with Cropland	CROP_FARMS	325	17,N,6	185	8,11,F,0
Cropland, in Acres	CROP_ACRES	342	17,N,6	193	8,11,F,0
Farms with Harvested Cropland	HARVSTED_F	359	17,N,6	201	8,11,F,0
Harvested Cropland, in Acres	HARVSTED_A	376	17,N,6	209	8,11,F,0
Farms with Irrigated Land	IRRIGATE_F	393	17,N,6	217	8,11,F,0
Irrigated Land, in Acres	IRRIGATE_A	410	17,N,6	225	8,11,F,0
Value of Crops Sold ($1,000)	VAL_CROPS	427	17,N,6	233	8,11,F,0
Value of Livestock, etc. Sold	VAL_ANIMAL	444	17,N,6	241	8,11,F,0
Farmer as Principal Occupation	FARMERS	461	17,N,6	249	8,11,F,0
Farmer as Other Occupation	OTH_OPERS	478	17,N,6	257	8,11,F,0
Farmers with Days Off Farm	OTHJOB_ANY	495	17,N,6	265	8,11,F,0
Farmers w/ 200+ Days Off	OTHJOB_200	512	17,N,6	273	8,11,F,0
Average Age of Farmers	AVG_AGE	529	17,N,6	281	8,11,F,1
Production Expenses ($1,000)	PROD_EXP	546	17,N,6	289	8,11,F,0
Avg. Expenses per Farm	AVG_EXP	563	17,N,6	297	8,11,F,0
Farms with Cattle and Calves	CATTLEFARM	580	17,N,6	305	8,11,F,0
Number of Cattle and Calves	CATTLE	597	17,N,6	313	8,11,F,0
Farms with Beef Cows	BEEFFARMS	614	17,N,6	321	8,11,F,0
Number of Beef Cows	BEEFCOWS	631	17,N,6	329	8,11,F,0
Farms with Dairy Cows	MILKFARMS	648	17,N,6	337	8,11,F,0
Number of Dairy Cows	MILKCOWS	665	17,N,6	345	8,11,F,0
Farms Selling Cattle & Calves	COWSOLDFAR	682	17,N,6	353	8,11,F,0
No. of Cattle and Calves Sold	CATTLESOLD	699	17,N,6	361	8,11,F,0
Farms with Hogs and Pigs	HOGFARMS	716	17,N,6	369	8,11,F,0
Number of Hogs and Pigs	HOGS	733	17,N,6	377	8,11,F,0
Farms Selling Hogs and Pigs	HOGSOLDFAR	750	17,N,6	385	8,11,F,0

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Agricultural Product Inventory, continued

Polygon Attribute Table—County-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
No. of Hogs and Pigs Sold	HOGS_SOLD	767	17,N,6	393	8,11,F,0
Farms with Sheep and Lambs	SHEEPFARMS	784	17,N,6	401	8,11,F,0
Number of Sheep and Lambs	SHEEP	801	17,N,6	409	8,11,F,0
Farms with Chickens	CHICKENFAR	818	17,N,6	417	8,11,F,0
Number of Chickens	CHICKENS	835	17,N,6	425	8,11,F,0
Farms Selling Broilers	BROILSLD_F	852	17,N,6	433	8,11,F,0
Number of Broilers Sold	BROIL_SOLD	869	17,N,6	441	8,11,F,0
Farms with Corn for Grain, etc.	CORNFARMS	886	17,N,6	449	8,11,F,0
Acres of Corn	CORNACRES	903	17,N,6	457	8,11,F,0
Bushels of Corn Harvested	CORN_BU	920	17,N,6	465	8,11,F,0
Farms with Corn for Silage	SILAGEFARM	937	17,N,6	473	8,11,F,0
Acres of Corn for Silage	SILAGEACRE	954	17,N,6	481	8,11,F,0
Tons of Corn Silage Produced	SILAGE_TON	971	17,N,6	489	8,11,F,0
Farms with Sorghum	SORGHMFARM	988	17,N,6	497	8,11,F,0
Acres of Sorghum	SORGHMACRE	1005	17,N,6	505	8,11,F,0
Bushels of Sorghum Harvested	SORGHM_BU	1022	17,N,6	513	8,11,F,0
Number of Farms with Wheat	WHEATFARMS	1039	17,N,6	521	8,11,F,0
Acres of Wheat	WHEATACRES	1056	17,N,6	529	8,11,F,0
Bushels of Wheat Harvested	WHEAT_BU	1073	17,N,6	537	8,11,F,0
Farms with Barley	BARLEYFARM	1090	17,N,6	545	8,11,F,0
Acres of Barley	BARLEYACRE	1107	17,N,6	553	8,11,F,0
Bushels of Barley Harvested	BARLEY_BU	1124	17,N,6	561	8,11,F,0
Farms with Oats	OATSFARMS	1141	17,N,6	569	8,11,F,0
Acres of Oats	OATSACRES	1158	17,N,6	577	8,11,F,0
Bushels of Oats Harvested	OATS_BU	1175	17,N,6	585	8,11,F,0
Farms with Rice	RICEFARMS	1192	17,N,6	593	8,11,F,0
Acres of Rice	RICEACRES	1209	17,N,6	601	8,11,F,0
Rice Harvested (100 pounds)	RICE_CWT	1226	17,N,6	609	8,11,F,0
Farms with Sunflowers for Seed	SUNFLWFARM	1243	17,N,6	617	8,11,F,0
Acres of Sunflowers for Seed	SUNFLWACRE	1260	17,N,6	625	8,11,F,0
Pounds of Sunflower Seed	SUNFLW_LB	1277	17,N,6	633	8,11,F,0
Farms with Cotton	COTTONFARM	1294	17,N,6	641	8,11,F,0
Acres of Cotton	COTTONACRE	1311	17,N,6	649	8,11,F,0
Bales of Cotton Harvested	COTTONBALE	1328	17,N,6	657	8,11,F,0
Farms with Tobacco	TOBACOFARM	1345	17,N,6	665	8,11,F,0
Acres of Tobacco	TOBACOACRE	1362	17,N,6	673	8,11,F,0

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Agricultural Product Inventory, continued

Polygon Attribute Table—County-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Pounds of Tobacco Harvested	TOBACO_LB	1379	17,N,6	681	8,11,F,0
Farms with Soybeans for Beans	SOYBEANFAR	1396	17,N,6	689	8,11,F,0
Acres of Soybeans for Beans	SOYBEANACR	1413	17,N,6	697	8,11,F,0
Bushels of Soybeans	SOYBEAN_BU	1430	17,N,6	705	8,11,F,0
Farms with Dry Bean	DRYBEANFAR	1447	17,N,6	713	8,11,F,0
Acres of Dry Beans	DRYBEANACR	1464	17,N,6	721	8,11,F,0
Dry Beans Harvested (100 lbs.)	DRYBEANCWT	1481	17,N,6	729	8,11,F,0
Farms with Potatoes	POTATOFARM	1498	17,N,6	737	8,11,F,0
Acres of Potatoes	POTATOACRE	1515	17,N,6	745	8,11,F,0
Potatoes Harvested (100 lbs.)	POTATO_CWT	1532	17,N,6	453	8,11,F,0
Farms with Sugar Beets	SUGBEETFAR	1549	17,N,6	761	8,11,F,0
Acres of Sugar Beets	SUGBEETACR	1566	17,N,6	769	8,11,F,0
Tons of Sugar Beets Harvested	SUGBEETTON	1583	17,N,6	777	8,11,F,0
Farms with Sugar Cane	SUGCANEFAR	1600	17,N,6	785	8,11,F,0
Acres of Sugar Beets	SUGCANEACR	1617	17,N,6	793	8,11,F,0
Tons of Sugar Beets Harvested	SUGCANETON	1634	17,N,6	801	8,11,F,0
Farms with Pineapples	PINEAPLFAR	1651	17,N,6	809	8,11,F,0
Acres of Pineapples	PINEAPLACR	1668	17,N,6	817	8,11,F,0
Tons of Pineapples Harvested	PINEAPLTON	1685	17,N,6	825	8,11,F,0
Farms with Peanuts (for Nuts)	PEANUTFARM	1702	17,N,6	833	8,11,F,0
Acres of Peanuts	PEANUTACRE	1719	17,N,6	841	8,11,F,0
Pounds of Peanuts Harvested	PEANUT_LB	1736	17,N,6	849	8,11,F,0
Farms with Hay	HAYFARMS	1753	17,N,6	857	8,11,F,0
Acres of Hay	HAYACRES	1770	17,N,6	865	8,11,F,0
Tons of Hay Harvested	HAYTONS	1787	17,N,6	873	8,11,F,0
Farms with Vegetables	VEGFARMS	1804	17,N,6	881	8,11,F,0
Acres of Vegetables	VEGACRES	1821	17,N,6	889	8,11,F,0
Farms with Orchards	ORCHRDFARM	1838	17,N,6	897	8,11,F,0
Acres of Orchards	ORCHRDACRE	1855	17,N,6	905	8,11,F,0

Agricultural Product Inventory, continued

Arc Attribute Table

Item Description	Item Name	dBASE Columns: Begin Column	dBASE Columns: Column Definition	INFO Items: Begin Column	INFO Items: Item Definition
Left State FIPS Code	L_ST_FIPS	80	3,N,0	29	3,3,I
Right State FIPS Code	R_ST_FIPS	83	3,N,0	32	3,3,I
Adjacent States	ST_NAMES	86	41,C,0	35	41,41,C
Boundary Type Code	BNDY_TYPE	127	11,N,0	76	4,5,B

***Note**: The state-level and county-level AATs are identical.*

Agricultural Product Market Value

Coverage Names: AGVL_S, AGVL_C
Layer Type: Polygon and Line

Polygon Attribute Table—State-Level Coverage

Item Description	Item Name	dBASE Columns: Begin Column	dBASE Columns: Column Definition	INFO Items: Begin Column	INFO Items: Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
State Name	STATE_NAME	52	20,C,0	20	20,20,C
U.S. Subregion Code	SUB_REGION	72	7,C,0	40	7,7,C
Statistical Flag	STAT_FLAG	79	1,N,0	47	1,1,I
Farms with Agricultural Sales	SALESFARMS	80	17,N,6	48	8,11,F,0
Total Ag. Sales ($1,000)	SALES_1K	97	17,N,6	56	8,11,F,0
Average Sales per Farm ($)	AVG_SALES	114	17,N,6	64	8,11,F,0
Farms Selling <$1,000 Products	FARM_UND1K	131	17,N,6	72	8,11,F,0
Product Value, Farms w/ <$1K	SALE_UND1K	148	17,N,6	80	8,11,F,0
Farms Selling $1,000–$2,500	F_1K_2500	165	17,N,6	88	8,11,F,0
Sales by Farms w/ $1K–2.5K	S_1K_2500	182	17,N,6	96	8,11,F,0
Farms Selling $2,500–5,000	F_2500_5K	199	17,N,6	104	8,11,F,0
Sales by Farms w/ $2,500–5K	S_2500_5K	216	17,N,6	112	8,11,F,0
Farms Selling $5,000–10,000	FARM_5_10K	233	17,N,6	120	8,11,F,0
Sales by Farms w/ $5K–10K	SALE_5_10K	250	17,N,6	128	8,11,F,0
Farms Selling $10,000–20,000	F_10_20K	267	17,N,6	136	8,11,F,0
Sales by Farms w/ $10K–20K	S_10_20K	284	17,N,6	144	8,11,F,0
Farms Selling $20,000–25,000	F_20_25K	301	17,N,6	152	8,11,F,0

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Agricultural Product Market Value, continued

Polygon Attribute Table—State-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Sales by Farms w/ $20K–25K	S_20_25K	318	17,N,6	160	8,11,F,0
Farms Selling $25,000–40,000	F_25_40K	335	17,N,6	168	8,11,F,0
Sales by Farms w/ $25K–40K	S_25_40K	352	17,N,6	176	8,11,F,0
Farms Selling $40,000–50,000	F_40_50K	369	17,N,6	184	8,11,F,0
Sales by Farms w/ $40K–50K	S_40_50K	386	17,N,6	192	8,11,F,0
Farms w/ $50,000–$100,000	F_50_100K	403	17,N,6	200	8,11,F,0
Sales by Farms w/ $50K–100K	S_50_100K	420	17,N,6	208	8,11,F,0
Farms w/ $100,000–250,000	F_100_250K	437	17,N,6	216	8,11,F,0
Sales by Farms w/ $100K–250K	S_100_250K	454	17,N,6	224	8,11,F,0
Farms Selling $250K–500K	F_250_500K	471	17,N,6	232	8,11,F,0
Sales by Farms w/ $250K–500K	S_250_500K	488	17,N,6	240	8,11,F,0
Farms Selling $500,000+	F_OVR_500K	505	17,N,6	248	8,11,F,0
Sales by Farms w/ $500K+	S_OVR_500K	522	17,N,6	256	8,11,F,0
No. of Farms Selling Crops	CROPFARMS	539	17,N,6	264	8,11,F,0
Total Value, Crops Sold ($1K)	CROPSALES	556	17,N,6	272	8,11,F,0
No. of Farms Selling Grain	GRAINFARMS	573	17,N,6	280	8,11,F,0
Total Value, Grain Sold ($1K)	GRAINSALES	590	17,N,6	288	8,11,F,0
Farms Selling Corn	CORNFARMS	607	17,N,6	296	8,11,F,0
Value of Corn Sold ($1,000)	CORNSALES	624	17,N,6	304	8,11,F,0
Farms Selling Wheat	WHEATFARMS	641	17,N,6	312	8,11,F,0
Value of Wheat Sold ($1,000)	WHEATSALES	658	17,N,6	320	8,11,F,0
Farms Selling Soybeans	SOYBEANFAR	675	17,N,6	328	8,11,F,0
Value of Soybeans Sold ($1,000)	SOYBEANSAL	692	17,N,6	336	8,11,F,0
Farms Selling Sorghum	SORGHMFARM	709	17,N,6	344	8,11,F,0
Value of Sorghum Sold ($1,000)	SORGHMSAL	726	17,N,6	352	8,11,F,0
Farms Selling Barley	BARLEYFARM	743	17,N,6	360	8,11,F,0
Value of Barley Sold ($1,000)	BARLEYSALE	760	17,N,6	368	8,11,F,0
Farms Selling Oats	OATSFARMS	777	17,N,6	376	8,11,F,0
Value of Oats Sold ($1,000)	OATSSALES	794	17,N,6	384	8,11,F,0
Farms Selling Other Grains	OTHGRNFARM	811	17,N,6	392	8,11,F,0
Value, Other Grains Sold ($1K)	OTHGRNSALE	828	17,N,6	400	8,11,F,0
Farms Selling Cotton	COTTONFARM	845	17,N,6	408	8,11,F,0
Value of Cotton Sold ($1,000)	COTTONSALE	862	17,N,6	416	8,11,F,0
Farms Selling Tobacco	TOBACOFARM	879	17,N,6	424	8,11,F,0
Value of Tobacco Sold ($1,000)	TOBACOSALE	896	17,N,6	432	8,11,F,0
Farms Selling Hay or Silage	HAYSILGFAR	913	17,N,6	440	8,11,F,0

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Agricultural Product Market Value, continued

Polygon Attribute Table—State-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Value of Hay, etc.. Sold ($1K)	HAYSILGSAL	930	17,N,6	448	8,11,F,0
Farms Selling Vegetables	VEGFARMS	947	17,N,6	456	8,11,F,0
Value of Vegetables Sold ($1K)	VEGSALES	964	17,N,6	464	8,11,F,0
Farms Selling Fruits or Nuts	FRUITNUTFA	981	17,N,6	472	8,11,F,0
Value, Fruits, Nuts Sold ($1K)	FRUITNUTSA	998	17,N,6	480	8,11,F,0
Farms Selling Nursery Crops	NURSRYFARM	1015	17,N,6	488	8,11,F,0
Nursery Crops Sold ($1,000)	NURSRYSALE	1032	17,N,6	496	8,11,F,0
Farms Selling Other Crops	OTHCROPFAR	1049	17,N,6	504	8,11,F,0
Value, Other Crops Sold ($1K)	OTHCROPSAL	1066	17,N,6	512	8,11,F,0
Farms Selling Livestock, etc.	LVSTPOUL_F	1083	17,N,6	520	8,11,F,0
Value, Livestock/Poultry ($1K)	LVSTPOUL_S	1100	17,N,6	528	8,11,F,0
Farms Selling Poultry	POULTRYFAR	1117	17,N,6	536	8,11,F,0
Value of Poultry Sold ($1,000)	POULTRYSAL	1134	17,N,6	544	8,11,F,0
Farms Selling Dairy Products	DAIRYFARMS	1151	17,N,6	552	8,11,F,0
Value, Dairy Products ($1K)	DAIRYSALES	1168	17,N,6	560	8,11,F,0
Farms Selling Cattle	CATTLEFARM	1185	17,N,6	568	8,11,F,0
Value of Cattle Sold ($1,000)	CATTLESALE	1202	17,N,6	576	8,11,F,0
Farms Selling Hogs and Pigs	HOGFARMS	1219	17,N,6	584	8,11,F,0
Value of Hogs Sold ($1,000)	HOGSALES	1236	17,N,6	592	8,11,F,0
Farms Selling Sheep, etc.	SHEEPFARMS	1253	17,N,6	600	8,11,F,0
Value of Sheep Sold ($1,000)	SHPWOOLSAL	1270	17,N,6	608	8,11,F,0
Farms Selling Other Livestock	OTHLVSTFAR	1287	17,N,6	616	8,11,F,0
Value of Other Livestock Sold	OTHLVSTSAL	1304	17,N,6	624	8,11,F,0
Farms by SIC Cash Grain	SICCASHGRN	1321	17,N,6	632	8,11,F,0
Farms in SIC Field Crops	SICFLDCROP	1338	17,N,6	640	8,11,F,0
Farms in SIC Cotton	SICCOTTON	1355	17,N,6	648	8,11,F,0
Farms in SIC Tobacco	SICTOBACCO	1372	17,N,6	656	8,11,F,0
Farms in SIC Other Field Crops	SICOTHFLD	1389	17,N,6	664	8,11,F,0
Farms in SIC Vegetables	SICVEG	1406	17,N,6	672	8,11,F,0
Farms in SIC Fruits/Nuts	SICFRTNUT	1423	17,N,6	680	8,11,F,0
Farms in SIC Horticulture	SICHORTSP	1440	17,N,6	688	8,11,F,0
Farms in SIC General, Crops	SICGENCROP	1457	17,N,6	696	8,11,F,0
Farms in SIC Livestock	SICLVSTOCK	1474	17,N,6	704	8,11,F,0
Farms in SIC Beef Cattle	SICBEEF	1491	17,N,6	712	8,11,F,0
Farms in SIC Dairy	SICDAIRY	1508	17,N,6	720	8,11,F,0
Farms in SIC Poultry	SICPOULTRY	1525	17,N,6	728	8,11,F,0
Farms, SIC Animal Specialties	SICANIMLSP	1542	17,N,6	736	8,11,F,0
Farms, SIC General, Livestock	SICGENLVST	1559	17,N,6	744	8,11,F,0

Agricultural Product Market Value, continued

Polygon Attribute Table—County-Level Coverage

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
County FIPS Code	CNTY_FIPS	52	3,N,0	20	3,3,I
Combined FIPS Code	FIPS	55	6,C,0	23	6,6,C
State Name	STATE_NAME	61	20,C,0	29	20,20,C
County Name	CNTY_NAME	81	32,C,0	49	32,32,C
U.S. Subregion Code	SUB_REGION	113	7,C,0	81	7,7,C
Statistical Flag	STAT_FLAG	120	1,N,0	88	1,1,I
Farms with Agricultural Sales	SALESFARMS	121	17,N,6	89	8,11,F,0
Total Agricultural Sales ($1,000)	SALES_1K	138	17,N,6	97	8,11,F,0
Average Sales per Farm ($)	AVG_SALES	155	17,N,6	105	8,11,F,0
Farms with <$1,000 in Products	FARM_UND1K	172	17,N,6	113	8,11,F,0
Product Value, Farms w/ <$1K	SALE_UND1K	189	17,N,6	121	8,11,F,0
Farms Selling $1,000–$2,500	F_1K_2500	206	17,N,6	129	8,11,F,0
Value by Farms w/ $–2,500	S_1K_2500	223	17,N,6	137	8,11,F,0
Farms Selling $2,500–5,000	F_2500_5K	240	17,N,6	145	8,11,F,0
Sales by Farms w/ $2,500–5K	S_2500_5K	257	17,N,6	153	8,11,F,0
Farms Selling $5,000–10,000	FARM_5_10K	274	17,N,6	161	8,11,F,0
Sales by Farms w/ $–10K	SALE_5_10K	291	17,N,6	169	8,11,F,0
Farms Selling $10,000–20,000	F_10_20K	308	17,N,6	177	8,11,F,0
Sales by Farms w/ $10K–20K	S_10_20K	325	17,N,6	185	8,11,F,0
Farms Selling $20,000–25,000	F_20_25K	342	17,N,6	193	8,11,F,0
Sales by Farms w/ $20K–25K	S_20_25K	359	17,N,6	201	8,11,F,0
Farms Selling $25,000–40,000	F_25_40K	376	17,N,6	209	8,11,F,0
Sales by Farms w/ $25K–40K	S_25_40K	393	17,N,6	217	8,11,F,0
Farms Selling $40,000–50,000	F_40_50K	410	17,N,6	225	8,11,F,0
Sales by Farms w/ $40K–50K	S_40_50K	427	17,N,6	233	8,11,F,0
Farms Selling $50K–$100K	F_50_100K	444	17,N,6	241	8,11,F,0
Sales by Farms w/ $50K–100K	S_50_100K	461	17,N,6	249	8,11,F,0
Farms Selling $100K–250K	F_100_250K	478	17,N,6	257	8,11,F,0
Sales by Farms w/ $100K–250K	S_100_250K	495	17,N,6	265	8,11,F,0
Farms Selling $250K–500K	F_250_500K	512	17,N,6	273	8,11,F,0
Sales by Farms w/ $250K–500K	S_250_500K	529	17,N,6	281	8,11,F,0
Farms Selling $500,000+	F_OVR_500K	546	17,N,6	289	8,11,F,0
Sales by Farms w/ $500K+	S_OVR_500K	563	17,N,6	297	8,11,F,0
No. of Farms Selling Crops	CROPFARMS	580	17,N,6	305	8,11,F,0
Total Value of Crops ($1K)	CROPSALES	597	17,N,6	313	8,11,F,0

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Agricultural Product Market Value, continued

Polygon Attribute Table—County-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Number of Farms Selling Grain	GRAINFARMS	614	17,N,6	321	8,11,F,0
Total Value of Grain ($1,000)	GRAINSALES	631	17,N,6	329	8,11,F,0
Farms Selling Corn	CORNFARMS	648	17,N,6	337	8,11,F,0
Value of Corn Sold ($1,000)	CORNSALES	665	17,N,6	345	8,11,F,0
Farms Selling Wheat	WHEATFARMS	682	17,N,6	353	8,11,F,0
Value of Wheat Sold ($1,000)	WHEATSALES	699	17,N,6	361	8,11,F,0
Farms Selling Soybeans	SOYBEANFAR	716	17,N,6	369	8,11,F,0
Value of Soybeans Sold ($1,000)	SOYBEANSAL	733	17,N,6	377	8,11,F,0
Farms Selling Sorghum	SORGHMFARM	750	17,N,6	385	8,11,F,0
Value of Sorghum Sold ($1,000)	SORGHMSAL	767	17,N,6	393	8,11,F,0
Farms Selling Barley	BARLEYFARM	784	17,N,6	401	8,11,F,0
Value of Barley Sold ($1,000)	BARLEYSALE	801	17,N,6	409	8,11,F,0
Farms Selling Oats	OATSFARMS	818	17,N,6	417	8,11,F,0
Value of Oats Sold ($1,000)	OATSSALES	835	17,N,6	425	8,11,F,0
Farms Selling Other Grains	OTHGRNFARM	852	17,N,6	433	8,11,F,0
Value of Other Grains ($1K)	OTHGRNSALE	869	17,N,6	441	8,11,F,0
Farms Selling Cotton	COTTONFARM	886	17,N,6	449	8,11,F,0
Value of Cotton Sold ($1,000)	COTTONSALE	903	17,N,6	457	8,11,F,0
Farms Selling Tobacco	TOBACOFARM	920	17,N,6	465	8,11,F,0
Value of Tobacco Sold ($1,000)	TOBACOSALE	937	17,N,6	473	8,11,F,0
Farms Selling Hay or Silage	HAYSILGFAR	954	17,N,6	481	8,11,F,0
Value of Hay, etc. Sold ($1K)	HAYSILGSAL	971	17,N,6	489	8,11,F,0
Farms Selling Vegetables	VEGFARMS	988	17,N,6	497	8,11,F,0
Value of Vegetables Sold ($1K)	VEGSALES	1005	17,N,6	505	8,11,F,0
Farms Selling Fruits or Nuts	FRUITNUTFA	1022	17,N,6	513	8,11,F,0
Value, Fruits/Nuts Sold ($1K)	FRUITNUTSA	1039	17,N,6	521	8,11,F,0
Farms Selling Nursery Stock	NURSRYFARM	1056	17,N,6	529	8,11,F,0
Value, Nursery Crops ($1K)	NURSRYSALE	1073	17,N,6	537	8,11,F,0
Farms Selling Other Crops	OTHCROPFAR	1090	17,N,6	545	8,11,F,0
Value of Other Crops ($1K)	OTHCROPSAL	1107	17,N,6	553	8,11,F,0
Farms Selling Livestock, etc.	LVSTPOUL_F	1124	17,N,6	561	8,11,F,0
Value, Livestock/Poultry ($1K)	LVSTPOUL_S	1141	17,N,6	569	8,11,F,0
Farms Selling Poultry	POULTRYFAR	1158	17,N,6	577	8,11,F,0
Value of Poultry Sold ($1,000)	POULTRYSAL	1175	17,N,6	585	8,11,F,0
Farms Selling Dairy Products	DAIRYFARMS	1192	17,N,6	593	8,11,F,0
Value, Dairy Products ($1K)	DAIRYSALES	1209	17,N,6	601	8,11,F,0

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Agricultural Product Market Value, continued

Polygon Attribute Table—County-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Farms Selling Cattle	CATTLEFARM	1226	17,N,6	609	8,11,F,0
Value of Cattle Sold ($1,000)	CATTLESALE	1243	17,N,6	617	8,11,F,0
Farms Selling Hogs and Pigs	HOGFARMS	1260	17,N,6	625	8,11,F,0
Value of Hogs Sold ($1,000)	HOGSALES	1277	17,N,6	633	8,11,F,0
Farms Selling Sheep, etc.	SHEEPFARMS	1294	17,N,6	641	8,11,F,0
Value of Sheep Sold ($1,000)	SHPWOOLSAL	1311	17,N,6	649	8,11,F,0
Farms Selling Other Livestock	OTHLVSTFAR	1328	17,N,6	657	8,11,F,0
Value of Other Livestock Sold	OTHLVSTSAL	1345	17,N,6	665	8,11,F,0
Farms by SIC, Cash Grain	SICCASHGRN	1362	17,N,6	673	8,11,F,0
Farms in SIC Field Crops	SICFLDCROP	1379	17,N,6	681	8,11,F,0
Farms in SIC Cotton	SICCOTTON	1396	17,N,6	689	8,11,F,0
Farms in SIC Tobacco	SICTOBACCO	1413	17,N,6	697	8,11,F,0
Farms in SIC Other Field Crops	SICOTHFLD	1430	17,N,6	705	8,11,F,0
Farms in SIC Vegetables	SICVEG	1447	17,N,6	713	8,11,F,0
Farms in SIC Fruits/Nuts	SICFRTNUT	1464	17,N,6	721	8,11,F,0
Farms in SIC Horticulture	SICHORTSP	1481	17,N,6	729	8,11,F,0
Farms in SIC General, Crops	SICGENCROP	1498	17,N,6	737	8,11,F,0
Farms in SIC Livestock	SICLVSTOCK	1515	17,N,6	745	8,11,F,0
Farms in SIC Beef Cattle	SICBEEF	1532	17,N,6	753	8,11,F,0
Farms in SIC Dairy	SICDAIRY	1549	17,N,6	761	8,11,F,0
Farms in SIC Poultry	SICPOULTRY	1566	17,N,6	769	8,11,F,0
Farms in SIC Animal Spec.	SICANIMLSP	1583	17,N,6	777	8,11,F,0
Farms in SIC General Livestock	SICGENLVST	1600	17,N,6	785	8,11,F,0

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Left State FIPS Code	L_ST_FIPS	80	3,N,0	29	3,3,I
Right State FIPS Code	R_ST_FIPS	83	3,N,0	32	3,3,I
Adjacent States	ST_NAMES	86	41,C,0	35	41,41,C
Boundary Type Code	BNDY_TYPE	127	11,N,0	76	4,5,B

***Note**: The state-level and county-level AATs are identical.*

Demographic and Health Attributes

Coverage Names: POP88S, POP88C
Layer Type: Polygon and Line

Polygon Attribute Table—State-Level Coverage

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
State Name	STATE_NAME	52	20,C,0	20	20,20,C
U.S. Subregion Code	SUB_REGION	72	7,C,0	40	7,7,C
Statistical Flag	STAT_FLAG	79	1,N,0	47	1,1,I
Total Population, 1986	POP1986	80	11,N,0	48	4,9,B
Population Rank, 1986	POP_RANK	91	11,N,0	52	2,4,B
Population per Square Mile	POP_SQMILE	102	13,N,6	54	4,9,F,1
Population, 1980, Corrected	POP1980CR	115	11,N,0	58	4,9,B
Population Change, 1980–1986	POP_CHG	126	11,N,0	62	4,8,B
Pop. % Change, 1980–1986	P_POP_CHG	137	13,N,6	66	4,7,F,1
Births, 1980–1986	BIRTHS	150	11,N,0	70	4,8,B
Deaths, 1980–1986	DEATHS	161	11,N,0	74	4,8,B
Net Migration, 1980–1986	NET_MIGR	172	11,N,0	78	4,7,B
Percent White Population, 1984	P_WHITE_84	183	13,N,6	82	4,7,F,2
% Black & Other Races, 1984	P_BLK_OTH	196	13,N,6	86	4,7,F,2
Males per 100 Females, 1984	MALE_100F	209	13,N,6	90	4,7,F,1
% Persons Under 5 Years, 1984	P_UNDER_5	222	13,N,6	94	4,6,F,1
Percent Persons 5 to 14 Years	P_5_14	235	13,N,6	98	4,6,F,1
Percent Persons 15 to 24 Years	P_15_24	248	13,N,6	102	4,6,F,1
Percent Persons 25 to 34 Years	P_25_34	261	13,N,6	106	4,6,F,1
Percent Persons 35 to 44 Years	P_35_44	274	13,N,6	110	4,6,F,1
Percent Persons 45 to 54 Years	P_45_54	287	13,N,6	114	4,6,F,1
Percent Persons 55 to 64 Years	P_55_64	300	13,N,6	118	4,6,F,1
Percent Persons 65 to 74 Years	P_65_74	313	13,N,6	122	4,6,F,1
Percent Persons 65 to 74 Years	P_OVER_74	326	13,N,6	126	4,6,F,1
Total Population 1984	POP1984	339	11,N,0	130	4,9,B
Percent American Indian, 1980	P_AMERIND	350	13,N,6	134	4,7,F,2
Percent Asian, 1980	P_ASIAN	363	13,N,6	138	4,7,F,2
Percent Hispanic, 1980	P_HISPANIC	376	13,N,6	142	4,7,F,2
Population, 1980	POP1980	389	11,N,0	146	4,9,B
Births, 1984	BIRTHS_84	400	11,N,0	150	4,7,B
% Births to Mothers <20 Years	P_BIR_TEEN	411	13,N,6	154	4,6,F,1
Births per 1000 Pop., 1984	BIR_1KPOP	424	13,N,6	158	4,6,F,1

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Demographic and Health Attributes, continued

Polygon Attribute Table—State-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Deaths, 1984	DEATHS_84	437	11,N,0	162	4,7,B
Infant Deaths, 1984	INFANT_DTH	448	11,N,0	166	4,5,B
Deaths per 1,000 Pop., 1984	DEATH1KPOP	459	13,N,6	170	4,6,F,1
Infant Deaths per 1,000 Births	INF_DTH_1K	472	13,N,6	174	4,6,F,1
Marriages, 1984	MARRIAGES	485	11,N,0	178	4,7,B
Marriages per 1,000 Pop., 1984	MARRIAG_1K	496	13,N,6	182	4,7,F,1
Divorces, 1984	DIVORCES	509	11,N,0	186	4,7,B
Divorces per 1,000 Pop., 1984	DIVORC_1K	520	13,N,6	190	4,7,F,1
Active Physicians, 1985	DOCTORS	533	11,N,0	194	4,6,B
Physicians per 1,000 Pop., 1985	DOCT_100K	544	11,N,0	198	2,4,B
Hospitals, 1985	HOSPITALS	555	11,N,0	200	2,4,B
Hospital Beds, 1985	HOSP_BEDS	566	11,N,0	202	4,7,B
Hospital Beds per 1,000 Pop.	HBEDS_1000	577	11,N,0	206	2,4,B
Nursing Homes, 1986	NURSEHOMES	588	11,N,0	208	4,5,B
Nursing Home Beds, 1986	NURSHM_BED	599	11,N,0	212	4,7,B

Polygon Attribute Table—County-Level Coverage

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
County FIPS Code	CNTY_FIPS	52	3,N,0	20	3,3,I
Combined FIPS Code	FIPS	55	6,C,0	23	6,6,C
State Name	STATE_NAME	61	20,C,0	29	20,20,C
County Name	CNTY_NAME	81	32,C,0	49	32,32,C
U.S. Subregion Code	SUB_REGION	113	7,C,0	81	7,7,C
Statistical Flag	STAT_FLAG	120	1,N,0	88	1,1,I
County Type Code	CNTY_TYPE	121	26,C,0	89	26,26,C
Metro. Statistical Area Code	MET_ST_AR	147	4,C,0	115	4,4,C
Consolidated MSA Code	PR_MT_ST_A	151	4,C,0	119	4,4,C
County Land Area in Sq. Mi.	LAND_AREA	155	11,N,0	123	4,7,B
Total Population, 1986	POP1986	166	11,N,0	127	4,9,B
Population Rank, 1986	POP_RANK	177	11,N,0	131	2,4,B

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Demographic and Health Attributes, continued

Polygon Attribute Table—County-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Population per Square Mile	POP_SQMILE	188	13,N,6	133	4,9,F,1
Population, 1980, Corrected	POP1980CR	201	11,N,0	137	4,9,B
Population Change, 1980–1986	POP_CHG	212	11,N,0	141	4,8,B
Pop. % Change, 1980–1986	P_POP_CHG	223	13,N,6	145	4,7,F
Births, 1980–1986	BIRTHS	236	11,N,0	149	4,8,B
Deaths, 1980–1986	DEATHS	247	11,N,0	153	4,8,B
Net Migration, 1980–1986	NET_MIGR	258	11,N,0	157	4,7,B
Percent White Population, 1984	P_WHITE_84	269	13,N,6	161	4,7,F
% Black & Other Races, 1984	P_BLK_OTH	282	13,N,6	165	4,7,F
Males per 100 Females, 1984	MALE_100F	295	13,N,6	169	4,7,F
% Persons under 5 Years, 1984	P_UNDER_5	308	13,N,6	173	4,6,F
Percent Persons 5 to 14 Years	P_5_14	321	13,N,6	177	4,6,F
Percent Persons 15 to 24 Years	P_15_24	334	13,N,6	181	4,6,F
Percent Persons 25 to 34 Years	P_25_34	347	13,N,6	185	4,6,F
Percent Persons 35 to 44 Years	P_35_44	360	13,N,6	189	4,6,F
Percent Persons 45 to 54 Years	P_45_54	373	13,N,6	193	4,6,F
Percent Persons 55 to 64 Years	P_55_64	386	13,N,6	197	4,6,F
Percent Persons 65 to 74 Years	P_65_74	399	13,N,6	201	4,6,F
Percent Persons Over 74 Years	P_OVER_74	412	13,N,6	205	4,6,F
Total Population 1984	POP1984	425	11,N,0	209	4,9,B
Percent American Indian, 1980	P_AMERIND	436	13,N,6	213	4,7,F
Percent Asian, 1980	P_ASIAN	449	13,N,6	217	4,7,F
Percent Hispanic, 1980	P_HISPANIC	462	13,N,6	221	4,7,F
Population, 1980	POP1980	475	11,N,0	225	4,9,B
Births, 1984	BIRTHS_84	486	11,N,0	229	4,7,B
% Births to Mothers <20 Years	P_BIR_TEEN	497	13,N,6	233	4,6,F
Births per 1,000 Pop., 1984	BIR_1KPOP	510	13,N,6	237	4,6,F
Deaths, 1984	DEATHS_84	523	11,N,0	241	4,7,B
Infant Deaths, 1984	INFANT_DTH	534	11,N,0	245	4,5,B
Deaths per 1,000 Pop., 1984	DEATH1KPOP	545	13,N,6	249	4,6,F
Infant Deaths per 1,000 Births	INF_DTH_1K	558	13,N,6	253	4,6,F
Marriages, 1984	MARRIAGES	571	11,N,0	257	4,7,B
Marriages per 1,000 Pop., 1984	MARRIAG_1K	582	13,N,6	261	4,7,F
Divorces, 1984	DIVORCES	595	11,N,0	265	4,7,B
Divorces per 1,000 Pop., 1984	DIVORC_1K	606	13,N,6	269	4,7,F
Active Physicians, 1985	DOCTORS	619	11,N,0	273	4,6,B

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Demographic and Health Attributes, continued

Polygon Attribute Table—County-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Physicians per 1,000 Pop., 1985	DOCT_100K	630	11,N,0	277	2,4,B
Hospitals, 1985	HOSPITALS	641	11,N,0	279	2,4,B
Hospital Beds, 1985	HOSP_BEDS	652	11,N,0	281	4,7,B
Hospital Beds per 1,000 Pop.	HBEDS_1000	663	11,N,0	285	2,4,B
Nursing Homes, 1986	NURSEHOMES	674	11,N,0	287	4,5,B
Nursing Home Beds, 1986	NURSHM_BED	685	11,N,0	291	4,7,B

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Left State FIPS Code	L_ST_FIPS	80	3,N,0	29	3,3,I
Right State FIPS Code	R_ST_FIPS	83	3,N,0	32	3,3,I
Adjacent States	ST_NAMES	86	41,C,0	35	41,41,C
Boundary Type Code	BNDY_TYPE	127	11,N,0	76	4,5,B

***Note**: The state-level and county-level AATs are identical.*

Environmental Attributes

Coverage Name: ENVIR
Layer Type: Polygon and Line

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
County FIPS Code	CNTY_FIPS	52	3,N,0	20	3,3,I
Combined FIPS Code	FIPS	55	6,C,0	23	6,6,C
State Name	STATE_NAME	61	20,C,0	29	20,20,C
County Name	CNTY_NAME	81	32,C,0	49	32,32,C
U.S. Subregion Code	SUB_REGION	113	7,C,0	81	7,7,C
Statistical Flag	STAT_FLAG	120	1,N,0	88	1,1,I
Total Surface Area of County	CNTY_AREA	121	11,N,0	89	4,8,B
Federal Land Area in County	CNTY_FED	132	11,N,0	93	4,8,B
% County Area in Federal Land	P_CNTY_FED	143	13,N,6	97	4,6,F,2
County Land Area	CNTY_LND	156	11,N,0	101	4,8,B
Rural Federal Land Area, 1977	FED_R_LD	167	11,N,0	105	4,8,B
Percent Rural Federal Land Area	P_FED_R_LD	178	13,N,6	109	4,6,F,2
Rural Non-Federal Area, 1977	NFD_R_LD	191	11,N,0	113	4,8,B
% Rural Non-Federal Land Area	P_NFD_R_LD	202	13,N,6	117	4,6,F,2
Total Rural Land Area, 1977	RUR_LND	215	11,N,0	121	4,8,B
Percent Rural Land Area	P_RUR_LND	226	13,N,6	125	4,6,F,2
Total Urban Land Area, 1977	URB_LND	239	11,N,0	129	4,8,B
Percent Urban Land Area	P_URB_LND	250	13,N,6	133	4,6,F,2
Census Water Area, 1977	WATER	263	11,N,0	137	4,8,B
Percent Water Area	P_WATER	274	13,N,6	141	4,6,F,2
Soils with No Limitations	SOILS_OK	287	11,N,0	145	4,8,B
% Soils with No Limitations	P_SOILS_OK	298	13,N,6	149	4,6,F,2
Soils with Some Limitations	SL_SMLTS	311	11,N,0	153	4,9,B
% Soils with Some Limitations	P_SL_SMLTS	322	13,N,6	157	4,6,F,2
Soils with Severe Limitations	SL_SVLTS	335	11,N,0	161	4,9,B
% Soils with Severe Lmts.	P_SL_SVLTS	346	13,N,6	165	4,6,F,2
Soils with Very Severe Lmts.	SL_VSLTS	359	11,N,0	169	4,9,B
% Soils w/ Very Severe Lmts.	P_SL_VSLTS	370	13,N,6	173	4,6,F,2
Soils Level but Wet/Stoney	SL_WET	383	11,N,0	177	4,9,B
% Soils Level but Wet/Stony	P_SL_WET	394	13,N,6	181	4,6,F,2
Soil for Range, Forest, etc.	SL_RANGE	407	11,N,0	185	4,9,B
% Soil for Range, Forest, etc.	P_SL_RANGE	418	13,N,6	189	4,6,F,2

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Environmental Attributes, continued

Polygon Attribute Table, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Soil for Forest, Wildlife	SL_WILD	431	11,N,0	193	4,9,B
% Soil for Forest, Wildlife	P_SL_WILD	442	13,N,6	197	4,6,F,2
Soil Not Good for Cultivation	SL_NO_AG	455	11,N,0	201	4,9,B
% Soil Not Good for Cult.	P_SL_NO_AG	466	13,N,6	205	4,6,F,2
Total Disturbed Land	DIST_LND	479	11,N,0	209	4,8,B
Percent Disturbed Land	P_DIST_LND	490	13,N,6	213	4,6,F,2
Land in Coal Mines	COAL_MNS	503	11,N,0	217	4,9,B
Percent Land in Coal Mines	P_COAL_MNS	514	13,N,6	221	4,6,F,2
Land in Sand/Gravel Extraction	SAND_EXT	527	11,N,0	225	4,9,B
% Land in Sand/Gravel Extr.	P_SAND_EXT	538	13,N,6	229	4,6,F,2
Land in Other Mines	OTH_MINE	551	11,N,0	233	4,9,B
Percent Land in Other Mines	P_OTH_MINE	562	13,N,6	237	4,6,F,2
Alfisol	ALFISOL	575	11,N,0	241	4,8,B
Percent Alfisol	P_ALFISOL	586	13,N,6	245	4,6,F,2
Aridisol	ARIDISOL	599	11,N,0	249	4,8,B
Percent Aridisol	P_ARIDISOL	610	13,N,6	253	4,6,F,2
Entisol	ENTISOL	623	11,N,0	257	4,8,B
Percent Entisol	P_ENTISOL	634	13,N,6	261	4,6,F,2
Histosol	HISTOSOL	647	11,N,0	265	4,8,B
Percent Histosol	P_HISTOSOL	658	13,N,6	269	4,6,F,2
Inceptisol	INCEPTSL	671	11,N,0	273	4,8,B
Percent Inceptisol	P_INCEPTSL	682	13,N,6	277	4,6,F,2
Mollisol	MOLLISOL	695	11,N,0	281	4,8,B
Percent Mollisol	P_MOLLISOL	706	13,N,6	285	4,6,F,2
Spodosol	SPODOSOL	719	11,N,0	289	4,8,B
Percent Spodosol	P_SPODOSOL	730	13,N,6	293	4,6,F,2
Ultisol	ULTISOL	743	11,N,0	297	4,8,B
Percent Ultisol	P_ULTISOL	754	13,N,6	301	4,6,F,2
Vertisol	VERTISOL	767	11,N,0	305	4,8,B
Percent Vertisol	P_VERTISOL	778	13,N,6	309	4,6,F,2

Environmental Attributes, continued

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Left State FIPS Code	L_ST_FIPS	80	3,N,0	29	3,3,I
Right State FIPS Code	R_ST_FIPS	83	3,N,0	32	3,3,I
Adjacent States	ST_NAMES	86	41,C,0	35	41,41,C
Boundary Type Code	BNDY_TYPE	127	11,N,0	76	4,5,B

Government and Financial Attributes

Coverage Names: GOV88S, GOV88C
Layer Type: Polygon and Line

Polygon Attribute Table—State-Level Coverage

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
State Name	STATE_NAME	52	20,C,0	20	20,20,C
U.S. Subregion Code	SUB_REGION	72	7,C,0	40	7,7,C
Statistical Flag	STAT_FLAG	79	1,N,0	47	1,1,I
Federal Funds and Grants, 1986	FEDFUNDGRT	80	13,N,6	48	4,10,F,1
% Change in Funds etc. 85–86	P_CHG_FNGR	93	13,N,6	52	4,7,F,1
Federal Funds/Grants per Capita	FNDGRT_CAP	106	11,N,0	56	4,5,B
Direct Payments of Fed. Funds	DIRPAY_CAP	117	11,N,0	60	4,5,B
Procurement Awards per Capita	AWARDS_CAP	128	11,N,0	64	4,5,B
Fed. Salaries, Wages per Capita	FWAGES_CAP	139	11,N,0	68	4,5,B
Fed. Grant Awards /Capita, '86	GRANTS_CAP	150	11,N,0	72	4,5,B
Local Gen. Revenue (million $)	LOC_GEN_RV	161	13,N,6	76	4,10,F,1
Local Intergovernmental Rev.	INTER_GVT	174	13,N,6	80	4,10,F,1
% Local Gov't Revenue fr. State	P_STATEREV	187	13,N,6	84	4,6,F,1
Local Taxes,1981–82	LOC_TAXES	200	13,N,6	88	4,10,F,1
Local Taxes /Capita, 1981–82	TAX_CAP	213	11,N,0	92	2,4,B
Prop. Taxes /Capita, 1981–82	PROPTAX_CP	224	11,N,0	94	2,4,B

continued...

Government and Financial Attributes, continued

Polygon Attribute Table—State-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Loc. Gov't General Expenditures	GEN_EXP	235	13,N,6	96	4,10,F,1
% Change, Expend. 1977–82	P_CHG_EXP	248	13,N,6	100	4,7,F,1
General Expenditure per Capita	GEN_EXP_CP	261	11,N,0	104	2,4,B
% Expenditure for Education	P_EDUC	272	13,N,6	106	4,6,F,1
Percent Expenditure for Health	P_HEALTH	285	13,N,6	110	4,6,F,1
Percent Expenditure for Police	P_POLICE	298	13,N,6	114	4,6,F,1
% Expend. for Public Welfare	P_WELFARE	311	13,N,6	118	4,6,F,1
% Expenditure for Highways	P_HIGHWAY	324	13,N,6	122	4,6,F,1
Local Gov't Debt Outstanding	DEBT	337	13,N,6	126	4,10,F,1
Local Gov't Debt per Capita	DEBT_CAP	350	11,N,0	130	2,4,B
Local Gov't Employment, 1982	LOCGVT_EMP	361	11,N,0	132	4,7,B
Local Gov't Empl. /10K Pop.	LG_EMP_10K	372	13,N,6	136	4,8,F,1
Fed. Civilian Employment, '84	FEDCIV_EMP	385	11,N,0	140	4,7,B
Fed. Civ. Emp. Earnings, '84	FEDCV_EARN	396	11,N,0	144	4,8,B
Votes Cast for President, 1984	PRESVOTE84	407	11,N,0	148	4,8,B
% Vote for Leading Party, 1984	P_VTE_LEAD	418	13,N,6	152	4,6,F,1
Votes for Pres., Leading Party	LEAD_PARTY	431	1,N,0	156	1,1,I

Polygon Attribute Table—County-Level Coverage

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
County FIPS Code	CNTY_FIPS	52	3,N,0	20	3,3,I
Combined FIPS Code	FIPS	55	6,C,0	23	6,6,C
State Name	STATE_NAME	61	20,C,0	29	20,20,C
County Name	CNTY_NAME	81	32,C,0	49	32,32,C
U.S. Subregion Code	SUB_REGION	113	7,C,0	81	7,7,C
Statistical Flag	STAT_FLAG	120	1,N,0	88	1,1,I
County Type Code	CNTY_TYPE	121	26,C,0	89	26,26,C
Metro. Statistical Area Code	MET_ST_AR	147	4,C,0	115	4,4,C
Consolidated MSA Code	PR_MT_ST_A	151	4,C,0	119	4,4,C
County Land Area in Hectares	LAND_AREA	155	11,N,0	123	4,7,B
Federal Funds and Grants, 1986	FEDFUNDGRT	166	13,N,6	127	4,10,F
% Change, Funds/Grants 85–86	P_CHG_FNGR	179	13,N,6	131	4,7,F

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Government and Financial Attributes, continued

Polygon Attribute Table—County-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Federal Funds & Grants /Capita	FNDGRT_CAP	192	11,N,0	135	4,5,B
Direct Payments of Fed. Funds	DIRPAY_CAP	203	11,N,0	139	4,5,B
Procurement Awards per Capita	AWARDS_CAP	214	11,N,0	143	4,5,B
Fed. Salaries, Wages per Capita	FWAGES_CAP	225	11,N,0	147	4,5,B
Fed. Grant Awards /Capita, '86	GRANTS_CAP	236	11,N,0	151	4,5,B
Local Gen. Revenue (million $)	LOC_GEN_RV	247	13,N,6	155	4,10,F
Local Intergovernmental Rev.	INTER_GVT	260	13,N,6	159	4,10,F
% Local Gov't Revenue fr. State	P_STATEREV	273	13,N,6	163	4,6,F
Local Taxes, 1981–82	LOC_TAXES	286	13,N,6	167	4,10,F
Local Taxes /Capita, 1981–82	TAX_CAP	299	11,N,0	171	2,4,B
Property Taxes /Capita, '81–82	PROPTAX_CP	310	11,N,0	173	2,4,B
Loc. Gov't General Expenditures	GEN_EXP	321	13,N,6	175	4,10,F
% Change, Expend. 1977–82	P_CHG_EXP	334	13,N,6	179	4,7,F
General Expenditure per Capita	GEN_EXP_CP	347	11,N,0	183	2,4,B
% Expenditure for Education	P_EDUC	358	13,N,6	185	4,6,F
Percent Expenditure for Health	P_HEALTH	371	13,N,6	189	4,6,F
Percent Expenditure for Police	P_POLICE	384	13,N,6	193	4,6,F
% Expenditure, Public Welfare	P_WELFARE	397	13,N,6	197	4,6,F
% Expenditure for Highways	P_HIGHWAY	410	13,N,6	201	4,6,F
Local Gov't Debt Outstanding	DEBT	423	13,N,6	205	4,10,F
Local Gov't Debt per Capita	DEBT_CAP	436	11,N,0	209	4,6,B
Local Gov't Employment, 1982	LOCGVT_EMP	447	11,N,0	213	4,7,B
Local Gov't Empl. /10K Pop.	LG_EMP_10K	458	13,N,6	217	4,8,F
Fed. Civilian Employment, '84	FEDCIV_EMP	471	11,N,0	221	4,7,B
Fed. Civ. Emp. Earnings, '84	FEDCV_EARN	482	11,N,0	225	4,8,B
Votes Cast for President, 1984	PRESVOTE84	493	11,N,0	229	4,8,B
% Vote for Leading Party, 1984	P_VTE_LEAD	504	13,N,6	233	4,6,F,1
Vote for Pres., Leading Party	LEAD_PARTY	517	1,N,0	237	1,1,I

Government and Financial Attributes, continued

Arc Attribute Table

Item Description	Item Name	dBASE Columns: Begin Column	dBASE Columns: Column Definition	INFO Items: Begin Column	INFO Items: Item Definition
Left State FIPS Code	L_ST_FIPS	80	3,N,0	29	3,3,I
Right State FIPS Code	R_ST_FIPS	83	3,N,0	35	3,3,I
Adjacent States	ST_NAMES	86	41,C,0	35	41,41,C
Boundary Type Code	BNDY_TYPE	127	11,N,0	76	4,5,B

***Note**: The state-level and county-level AATs are identical.*

Socioeconomic Attributes

Coverage Names: SOC88S, SOC88C
Layer Type: Polygon and Line

Polygon Attribute Table—State-Level Coverage

Item Description	Item Name	dBASE Columns: Begin Column	dBASE Columns: Column Definition	INFO Items: Begin Column	INFO Items: Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
State Name	STATE_NAME	52	20,C,0	20	20,20,C
U.S. Subregion Code	SUB_REGION	72	7,C,0	40	7,7,C
Statistical Flag	STAT_FLAG	79	1,N,0	47	1,1,I
Total Households, 1985	HSEHOLD_85	80	11,N,0	48	4,8,B
% Change, Households 1980–85	P_CHG_HHLD	91	13,N,6	52	4,7,F,1
Persons per Household, 1985	PERS_HHLD	104	13,N,6	56	4,7,F,2
Total Households, 1980	HSEHOLD_80	117	11,N,0	60	4,8,B
% Households w/ Female Head	P_FEM_HHLD	128	13,N,6	64	4,6,F,1
% One-person Households	P_1PER_HH	141	13,N,6	68	4,6,F,1
Soc. Security Recipients, 1985	SSEC_RECIP	154	11,N,0	72	4,8,B
Soc. Sec. Recips. /1,000 Pop.	SSRECIP_1K	165	13,N,6	76	4,7,F,1
Soc. Sec. Payments, 1985, $1K	SSPAYMT_1K	178	11,N,0	80	4,8,B
Supplemental Sec. Recip., '86	SUPP_RECIP	189	11,N,0	84	4,7,B
Serious Crimes, 1985	SERIOUS_CR	200	11,N,0	88	4,8,B

continued...

Socioeconomic Attributes, continued

Polygon Attribute Table—State-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Violent Crimes, 1985	VIOLENT_CR	211	11,N,0	92	4,7,B
Serious Crimes per 100K Pop.	SR_CR_100K	222	11,N,0	96	4,5,B
Public School Enrollment, '86	PUPILS86	233	11,N,0	100	4,8,B
Public School Enrollment, '80	PUPILS80	244	11,N,0	104	4,8,B
% Pop. with High School Educ.	P_HS_GRADS	255	13,N,6	108	4,6,F,1
% Pop. with 4 Yrs. College	P_COL_GRAD	268	13,N,6	112	4,6,F,1
Persons 25+ Years of Age	AGE_25_UP	281	11,N,0	116	4,9,B
Loc. Gov't. Education Spending	ED_DOL_1M	292	13,N,6	120	4,10,F
Per Capita Education Spending	ED_DOL_CAP	305	11,N,0	124	2,4,B
Income per Capita, 1985	INC_CAP_85	316	11,N,0	126	4,5,B
State Rank, Income/Capita, '85	RNK_INCCAP	327	11,N,0	130	2,4,B
Income per Capita, 1979	INC_CAP_79	338	11,N,0	132	4,5,B
Income /Capita, '79, Constant $	INC_CNST79	349	11,N,0	136	4,5,B
Median Household Income, '79	MED_INC_79	360	11,N,0	140	4,5,B
% Persons Below Poverty, '79	P_POVERTY	371	13,N,6	144	4,6,F,1
Persons of Poverty Status, '79	POV_STATUS	384	11,N,0	148	4,9,B
% Families Below Poverty, '79	P_FAM_POV	395	13,N,6	152	4,6,F,1
Family Households, 1980	FAMILYHHLD	408	11,N,0	156	4,9,B
Housing Units, 1980	HSE_UNITS	419	11,N,0	160	4,8,B
% Chg., Housing Units '70–80	P_CHG_HSE	430	13,N,6	164	4,6,F,1
Occupied Housing Units, '80	OCCUP_HSE	443	11,N,0	168	4,8,B
% Owner Occupied Housing	P_OWN_OCC	454	13,N,6	172	4,6,F,1
% Housing Units, 2+ Cars	P_2CAR_OCC	467	13,N,6	176	4,6,F,1
Occupied Housing Units (Est.)	OCC_SAMPLE	480	11,N,0	180	4,8,B
Median Housing Unit Value	MEDIAN_DOL	491	11,N,0	184	4,6,B
Authorized New Units, 1986	PERMIT_86	502	11,N,0	188	4,7,B
Authorized New Units, 1980–86	PRMT_80_86	513	11,N,0	192	4,7,B
% 1980 Units w/ Permits 80–86	P_PERMITS	524	13,N,6	196	4,6,F,1
Civilian Labor Force, 1986	CIVLABOR86	537	11,N,0	200	4,9,B
% Chg., Labor Force, 1985–86	P_CHG_CIV	548	13,N,6	204	4,7,F,1
Unemployed Civ. Labor Force	CIV_UNEMP	561	11,N,0	208	4,7,B
Unemployment Rate, 1986	UNEMP_RATE	572	13,N,6	212	4,6,F,1

Socioeconomic Attributes, continued

Polygon Attribute Table—County-Level Coverage

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
County FIPS Code	CNTY_FIPS	52	3,N,0	20	3,3,I
Combined FIPS Code	FIPS	55	6,C,0	23	6,6,C
State Name	STATE_NAME	61	20,C,0	29	20,20,C
County Name	CNTY_NAME	81	32,C,0	49	32,32,C
U.S. Subregion Code	SUB_REGION	113	7,C,0	81	7,7,C
Statistical Flag	STAT_FLAG	120	1,N,0	88	1,1,I
County Type Code	CNTY_TYPE	121	26,C,0	89	26,26,C
Metro. Statistical Area Code	MET_ST_AR	147	4,C,0	115	4,4,C
Consolidated MSA Code	PR_MT_ST_A	151	4,C,0	119	4,4,C
Land Area of the County	LAND_AREA	155	11,N,0	123	4,7,B
Total Households, 1985	HSEHOLD_85	166	11,N,0	127	4,8,B
% Change, Households, '80–85	P_CHG_HHLD	177	13,N,6	131	4,7,F,1
Persons per Household, 1985	PERS_HHLD	190	13,N,6	135	4,7,F,2
Total Households, 1980	HSEHOLD_80	203	11,N,0	139	4,8,B
% Households w/ Female Head	P_FEM_HHLD	214	13,N,6	143	4,6,F,1
% One-Person Households	P_1PER_HH	227	13,N,6	147	4,6,F,1
Soc. Security Recipients, 1985	SSEC_RECIP	240	11,N,0	151	4,8,B
Soc. Sec. Recips. /1,000 Pop.	SSRECIP_1K	251	13,N,6	155	4,7,F,1
Soc. Sec. Payments, 1985, $1K	SSPAYMT_1K	264	11,N,0	159	4,8,B
Supplemental Sec. Recip., '86	SUPP_RECIP	275	11,N,0	163	4,7,B
Serious Crimes, 1985	SERIOUS_CR	286	11,N,0	167	4,8,B
Violent Crimes, 1985	VIOLENT_CR	297	11,N,0	171	4,7,B
Serious Crimes per 100K Pop.	SR_CR_100K	308	11,N,0	175	4,5,B
Public School Enrollment, '86	PUPILS86	319	11,N,0	179	4,8,B
Public School Enrollment, '80	PUPILS80	330	11,N,0	183	4,8,B
% Pop. with High School Educ.	P_HS_GRADS	341	13,N,6	187	4,6,F,1
% Pop. with 4 Yrs. College	P_COL_GRAD	354	13,N,6	191	4,6,F,1
Persons 25+ Years of Age	AGE_25_UP	367	11,N,0	195	4,9,B
Local Gov't. Educ. Spending	ED_DOL_1M	378	13,N,6	199	4,10,F,1
Per Capita Education Spending	ED_DOL_CAP	391	11,N,0	203	2,4,B
Income per Capita, 1985	INC_CAP_85	402	11,N,0	205	4,5,B
County Rank, Income /Capita	RNK_INCCAP	413	11,N,0	209	2,4,B
Income per Capita, 1979	INC_CAP_79	424	11,N,0	211	4,5,B
Income /Capita, '79 Constant $	INC_CNST79	435	11,N,0	215	4,5,B
Median Household Income, '79	MED_INC_79	446	11,N,0	219	4,5,B

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Socioeconomic Attributes, continued

Polygon Attribute Table—County-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
% Persons Below Poverty, '79	P_POVERTY	457	13,N,6	223	4,6,F,1
Persons of Poverty Status, '79	POV_STATUS	470	11,N,0	227	4,9,B
% Families Below Poverty, '79	P_FAM_POV	481	13,N,6	231	4,6,F,1
Family Households, 1980	FAMILYHHLD	494	11,N,0	235	4,9,B
Housing Units, 1980	HSE_UNITS	505	11,N,0	239	4,8,B
% Chg., Housing Units '70–80	P_CHG_HSE	516	13,N,6	243	4,6,F,1
Occupied Housing Units, 1980	OCCUP_HSE	529	11,N,0	247	4,8,B
% Owner Occupied Housing	P_OWN_OCC	540	13,N,6	251	4,6,F,1
% Housing Units, 2+ Cars	P_2CAR_OCC	553	13,N,6	255	4,6,F,1
Occupied Housing Units (Est.)	OCC_SAMPLE	566	11,N,0	259	4,8,B
Median Housing Unit Value	MEDIAN_DOL	577	11,N,0	263	4,6,B
Authorized New Units, 1986	PERMIT_86	588	11,N,0	267	4,7,B
Authorized New Units, 1980–86	PRMT_80_86	599	11,N,0	271	4,7,B
% 1980 Units w/ Permits 80–86	P_PERMITS	610	13,N,6	275	4,6,F,1
Civilian Labor Force, 1985–86	CIVLABOR86	623	11,N,0	279	4,9,B
% Chg., Labor Force, 1985–86	P_CHG_CIV	634	13,N,6	283	4,7,F,1
Unemployed Civ. Labor Force	CIV_UNEMP	647	11,N,0	287	4,7,B
Unemployment Rate, 1986	UNEMP_RATE	658	13,N,6	291	4,6,F,1

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Left State FIPS Code	L_ST_FIPS	80	3,N,0	29	3,3,I
Right State FIPS Code	R_ST_FIPS	83	3,N,0	32	3,3,I
Adjacent States	ST_NAMES	86	41,C,0	35	41,41,C
Boundary Type Code	BNDY_TYPE	127	11,N,0	76	4,5,B

***Note**: The state-level and county-level AATs are identical.*

Cities

Coverage Name: CITIES
Layer Type: Point

Point Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Name of Feature	NAME	49	51,C,0	17	51,51,C
Major City Code	MAJ_CITY	100	1,N,0	68	1,1,I
Capital Code	CAPITAL	101	1,N,0	69	1,1,I
County Seat Code	CTY_SEAT	102	1,N,0	70	1,1,I
Elevation of Feature	ELEVATION	103	6,N,0	71	6,6,I
County Name	CNTY_NAME	109	31,C,0	77	31,31,C
State FIPS Code	STATE_FIPS	140	3,N,0	108	3,3,I
State Name	STATE_NAME	143	16,C,0	111	16,16,C
U.S. Subregion Code	SUB_REGION	159	7,C,0	127	7,7,C

County Boundaries

Coverage Name: CTY_25M
Layer Type: Polygon and Line

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
County FIPS Code	CNTY_FIPS	52	3,N,0	20	3,3,I
Combined FIPS Code	FIPS	55	6,C,0	23	6,6,C
State Name	STATE_NAME	61	20,C,0	29	20,20,C
County Name	CNTY_NAME	81	32,C,0	49	32,32,C
U.S. Subregion Code	SUB_REGION	113	7,C,,0	81	7,7,C
	STAT_FLAG	120	1,N,0	88	1,1,I

County Boundaries, continued

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Left State FIPS Code	L_ST_FIPS	80	3,N,0	29	3,3,I
Right State FIPS Code	R_ST_FIPS	83	3,N,0	32	3,3,I
Adjacent States	ST_NAMES	86	41,C,0	35	41,41,C
Boundary Type Code	BNDY_TYPE	127	11,N,0	76	4,5,B

Land/Ocean Display

Coverage Name: LAND25M
Layer Type: Polygon and Line

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Land/Water Identifier	LND_WAT	49	5,C,0	17	5,5,C

Annotation: Includes country, water body and other major place names.

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Feature/Grid Identifier	BND_GRID	80	1,N,0	29	1,1,I

Map Elements

Coverage Name: SC_25M
Layer Type: Polygon and Line

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Fill Area Code	FILL1	49	2,N,0	17	2,2,I

Annotation: Includes labels for scale bar, North arrow, and display title.

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition

All items are ARC/INFO generated.

Rivers

Coverage Name: RIV_25M
Layer Type: Line

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
River Classification Code	TYPE	80	4,N,0	29	4,4,I
River Classification Code Name	RIVER_TYPE	84	38,C,0	33	38,38,C
State FIPS Code	STATE_FIPS	122	3,N,0	71	3,3,I
State Name	STATE_NAME	125	20,C,0	74	20,20,C
U.S. Subregion Code	SUB_REGION	145	7,C,0	94	7,7,C

Roads

Coverage Name: RDS_25M
Layer Type: Line

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Federal Interstate Route #1	INTER_RTE1	80	3,N,0	29	3,3,I
Federal Interstate Route #2	INTER_RTE2	83	3,N,0	32	3,3,I
Federal Interstate Route #3	INTER_RTE3	86	3,N,0	35	3,3,I
U.S. Route Number 1	US_RTE1	89	3,N,0	38	3,3,1
U.S. Route Number 2	US_RTE2	92	3,N,0	41	3,3,I
U.S. Route Number 3	US_RTE3	95	3,N,0	44	3,3,I
State Route Number One	STATE_RTE1	98	3,N,0	47	3,3,I
State Route Number Two	STATE_RTE2	101	3,N,0	50	3,3,I
State FIPS Code	STATE_FIPS	104	3,N,0	53	3,3,I
State Name	STATE_NAME	107	20,L,0	56	20,20,C
U.S. Subregion Code	SUB_REGION	127	7,L,0	76	7,7,C

State Boundaries

Coverage Name: ST_25M
Layer Type: Polygon and Line

Polygon Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
State Name	STATE_NAME	52	20,C,0	20	20,20,C
U.S. Subregion Code	SUB_REGION	72	7,C,0	40	7,7,C
Statistical Flag	STAT_FLAG	79	1,N,0	47	1,1,I

State Boundaries, continued

Arc Attribute Table

Item Description	Item Name	dBASE Columns Begin Column	dBASE Columns Column Definition	INFO Items Begin Column	INFO Items Item Definition
Left State FIPS Code	L_ST_FIPS	80	3,N,0	29	3,3,I
Right State FIPS Code	R_ST_FIPS	83	3,N,0	32	3,3,I
Adjacent States	ST_NAMES	86	41,C,0	35	41,41,C
Boundary Type Code	BNDY_TYPE	127	11,N,0	76	4,5,B

Statistical Attributes

Coverage Names: STATS_S, STATS_C
Layer Type: Polygon and Line

Polygon Attribute Table–State-Level Coverage

Item Description	Item Name	dBASE Columns Begin Column	dBASE Columns Column Definition	INFO Items Begin Column	INFO Items Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
State Name	STATE_NAME	52	20,L,0	20	20,20,C
U.S. Subregion Code	SUB_REGION	72	7,L,0	40	7,7,C
Statistical Flag	STAT_FLAG	79	1,N,0	47	1,1,I
Births, 1984	BIRTHS_84	80	11,N,0	48	4,7,B
Net Migration, 1980–86	NET_MIGR	91	11,N,0	52	4,7,B
% Persons Under 5 Years, 1984	P_UNDER_5	102	13,N,6	56	4,6,F,1
% Persons 5 to 14 Years, 1984	P_5_14	115	13,N,6	60	4,6,F,1
% Persons 15 to 24 Years, '84	P_15_24	128	13,N,6	64	4,6,F.1
% Persons 25 to 34 Years, '84	P_25_34	141	13,N,6	68	4,6,F,1
% Persons 35 to 44 Years, '84	P_35_44	154	13,N,6	72	4,6,F,1
% Persons 45 to 54 Years, '84	P_45_54	167	13,N,6	76	4,6,F,1
% Persons 55 to 64 Years, '84	P_55_64	180	13,N,6	80	4,6,F,1
% Persons 65 to 74 Years, '84	P_65_74	193	13,N,6	84	4,6,F,1
% Persons 75+ Yrs., 1984	P_OVER_74	206	13,N,6	88	4,6,F,1
Total Population, 1984	POP1984	219	11,N,0	92	4,9,B
Persons per Household, 1985	PERS_HHLD	230	13,N,6	96	4,7,F,2
Marriages, 1984	MARRIAG_1K	243	13,N,6	100	4,7,F,1

continued...

Statistical Attributes, continued

Polygon Attribute Table–State-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Hospital Beds per 1,000 Pop.	HBEDS_1000	256	11,N,0	104	2,4,B
Soc. Sec. Recips. /1,000 Pop.	SSRECIP_1K	267	13,N,6	106	4,7,F,1
Serious Crimes per 100K Pop.	SR_CR_100K	280	11,N,0	110	4,5,B
% Persons with 4 Yrs. College	P_COL_GRAD	291	13,N,6	114	4,6,F,1
Income per Capita, 1985	INC_CAP_85	304	11,N,0	118	4,5,B
Median Housing Unit Value	MEDIAN_DOL	315	11,N,0	122	4,6,B
Federal Funds and Grants, 1986	FEDFUNDGRT	326	13,N,6	126	4,10,F,1
Local Taxes /Capita, 1981–82	TAX_CAP	339	11,N,0	130	4,5,B
Local Gov't Empl. /10K Pop.	LG_EMP_10K	350	13,N,6	134	4,8,F,1
Vote Cast for President, 1984	PRESVOTE84	363	11,N,0	138	4,8,B
Total Population, 1990	POP1990	374	11,N,0	142	4,9,B
Population/Square Mile, 1990	TOTAL_SQMI	385	13,N,6	146	4,9,F,2
Percent White, 1990	P_WHITE	398	13,N,6	150	4,6,F,2
Percent Black, 1990	P_BLACK	411	13,N,6	154	4,5,F,2
Percent American Indian, 1990	P_AMERIND	424	13,N,6	158	4,5,F,2
Percent Asian, 1990	P_ASIAN	437	13,N,6	162	4,5,F,2
Percent Other Race, 1990	P_OTHER	450	13,N,6	166	4,5,F,2
Acres of Farmland	FARM_ACRES	463	11,N,0	170	4,11,B
Average Size of Farm in Acres	AVG_SIZE	474	11,N,0	174	4,11,B
Cropland, in Acres	CROP_ACRES	485	11,N,0	178	4,11,B
Irrigated Land, in Acres	IRRIGATE_A	496	11,N,0	182	4,11,B
Ag. Products Sold, ($1,000)	SALES_1K	507	11,N,0	186	4,11,B
Average Sales per Farm ($)	AVG_SALES	518	11,N,0	190	4,11,B

Polygon Attribute Table–County-Level Coverage

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
State FIPS Code	STATE_FIPS	49	3,N,0	17	3,3,I
State Name	CNTY_FIPS	52	3,N,0	20	3,3,I
County FIPS Code	FIPS	55	6,L,0	23	6,6,C
State Name	STATE_NAME	61	20,L,0	29	20,20,C
County Name	CNTY_NAME	81	32,L,0	49	32,32,C
U.S. Subregion Code	SUB_REGION	113	7,L,0	81	7,7,C

continued...

Statistical Attributes, continued

Polygon Attribute Table–County-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Statistical Flag	STAT_FLAG	120	1,N,0	88	1,1,I
County Type Code	CNTY_TYPE	121	26,C,0	89	26,26,C
Metro. Statistical Area Code	MET_ST_AR	147	4,L,0	115	4,4,C
Consolidated MSA Code	PR_MT_ST_A	151	4,L,0	119	4,4,C
County Land Area	LAND_AREA	155	11,N,0	123	4,7,B
Births, 1984	BIRTHS_84	166	11,N,0	127	4,7,B
Net Migration, 1980–86	NET_MIGR	177	11,N,0	131	4,7,B
% Persons Under 5 Years, '84	P_UNDER_5	188	13,N,6	135	4,6,F,1
% Persons 5 to 14 Years, '84	P_5_14	201	13,N,6	139	4,6,F,1
% Persons 15 to 24 Years, '84	P_15_24	214	13,N,6	143	4,6,F,1
% Persons 25 to 34 Years, '84	P_25_34	227	13,N,6	147	4,6,F,1
% Persons 35 to 44 Years, '84	P_35_44	240	13,N,6	151	4,6,F,1
% Persons 45 to 54 Years, '84	P_45_54	253	13,N,6	155	4,6,F,1
% Persons 55 to 64 Years, '84	P_55_64	266	13,N,6	159	4,6,F,1
% Persons 65 to 74 Years, '84	P_65_74	279	13,N,6	163	4,6,F,1
% Persons 75+ Yrs., '84	P_OVER_74	292	13,N,6	167	4,6,F,1
Total Population, 1984	POP1984	305	11,N,0	171	4,9,B
Persons per Household, 1985	PERS_HHLD	316	13,N,6	175	4,7,F,2
Marriages per 1,000 Pop.	MARRIAG_1K	329	13,N,6	179	4,7,F,1
Hospital Beds per 1,000 Pop.	HBEDS_1000	342	11,N,0	183	2,4,B
Soc. Sec. Recips. /1,000 Pop.	SSRECIP_1K	353	13,N,6	185	4,7,F,1
Serious Crimes /100,000 Pop.	SR_CR_100K	366	11,N,0	189	4,5,B
% Persons with 4 Yrs. College	P_COL_GRAD	377	13,N,6	193	4,6,F,1
Income per Capita, 1985	INC_CAP_85	390	11,N,0	197	4,5,B
Median Housing Unit Value	MEDIAN_DOL	401	11,N,0	201	4,6,B
Federal Funds and Grants, 1986	FEDFUNDGRT	412	13,N,6	205	4,10,F,1
Local Taxes /Capita, 1981–82	TAX_CAP	425	11,N,0	209	4,5,B
Local Gov't Empl. /10K Pop.	LG_EMP_10K	436	13,N,6	213	4,8,F
Votes Cast for President, 1984	PRESVOTE84	449	11,N,0	217	4,8,B
Total Population, 1990	POP1990	460	11,N,0	221	4,9,B
Population/Square Mile, 1990	TOTAL_SQMI	471	13,N,6	225	4,9,F,2
Percent White, 1990	P_WHITE	484	13,N,6	229	4,6,F,2
Percent Black, 1990	P_BLACK	497	13,N,6	233	4,5,F,2
Percent American Indian, 1990	P_AMERIND	510	13,N,6	237	4,5,F,2
Percent Asian, 1990	P_ASIAN	523	13,N,6	241	4,5,F,2
Percent Other Race, 1990	P_OTHER	536	13,N,6	245	4,5,F,2

continued...

Statistical Attributes, continued

Polygon Attribute Table–County-Level Coverage, continued

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Acres of Farmland	FARM_ACRES	549	11,N,0	249	4,11,B
Average Size of Farm in Acres	AVG_SIZE	560	11,N,0	253	4,11,B
Cropland, in Acres	CROP_ACRES	571	11,N,0	257	4,11,B
Irrigated Land, in Acres	IRRIGATE_A	582	11,N,0	261	4,11,B
Ag. Products Sold, ($1,000)	SALES_1K	593	11,N,0	265	4,11,B
Average Sales per Farm ($)	AVG_SALES	604	11,N,0	269	4,11,B
% Soil Not Good for Cult.	P_SL_NO_AG	615	13,N,6	273	4,6,F,2
% Disturbed Land	P_DIST_LND	628	13,N,6	277	4,6,F,2

Arc Attribute Table

		dBASE Columns		INFO Items	
Item Description	Item Name	Begin Column	Column Definition	Begin Column	Item Definition
Left State FIPS Code	L_ST_FIPS	80	3,N,0	29	3,3,I
Right State FIPS Code	R_ST_FIPS	83	3,N,0	32	3,3,I
Adjacent States	ST_NAMES	86	41,L,0	35	41,41,C
Boundary Type Code	BNDY_TYPE	127	11,N,0	76	4,5,B

***Note**: The state-level and county-level AATs are identical.*

Appendix C

Federal Information Processing Standards (FIPS) codes

Federal Information Processing Standards (FIPS) codes are standard international codes that have been developed to facilitate the transfer of information between systems, to reduce data coding error, and to reduce waste in data storage by eliminating duplication. The codes were developed by the National Computer Systems Laboratory at the National Institute of Standards and Technology.

There are FIPS codes for place names throughout the world; for the United States, the codes include the place names for incorporated places, Indian reservations, airports, and U.S. Post Offices. The ArcUSA database uses the U.S. state and county FIPS codes. Each state has a unique two-digit numeric code, and each county has a three-digit numeric code that is unique within the state. In combination, these codes give each county a unique five-digit code.

The ArcUSA database also uses the four-digit FIPS codes for census metropolitan areas. These areas are Metropolitan Statistical Areas (MSAs), Primary Metropolitan Statistical Areas (PMSAs), Consolidated Metropolitan Statistical Areas (PMSAs), and New England County Metropolitan Areas (NECMA).

To allow for the addition of new entries (e.g., the names of new counties or states), intervals were left between the FIPS codes. For that reason, the code list is not sequential even though it is complete.

State FIPS codes

1 - Alabama
4 - Arizona
5 - Arkansas
6 - California
8 - Colorado
9 - Connecticut
10 - Delaware
11 - District of Columbia
12 - Florida
13 - Georgia
16 - Idaho
17 - Illinois
18 - Indiana
19 - Iowa
20 - Kansas
21 - Kentucky
22 - Louisiana
23 - Maine
24 - Maryland
25 - Massachusetts
26 - Michigan
27 - Minnesota
28 - Mississippi
29 - Missouri
30 - Montana
31 - Nebraska
32 - Nevada
33 - New Hampshire
34 - New Jersey
35 - New Mexico
36 - New York
37 - North Carolina
38 - North Dakota
39 - Ohio
40 - Oklahoma
41 - Oregon
42 - Pennsylvania
44 - Rhode Island
45 - South Carolina
46 - South Dakota
47 - Tennessee
48 - Texas
49 - Utah
50 - Vermont
51 - Virginia
53 - Washington
54 - West Virginia
55 - Wisconsin
56 - Wyoming

County FIPS codes

Alabama

1 - Autauga
3 - Baldwin
5 - Barbour
7 - Bibb
9 - Blount
11 - Bullock
13 - Butler
15 - Calhoun
17 - Chambers
19 - Cherokee
21 - Chilton
23 - Choctaw
25 - Clarke
27 - Clay
29 - Cleburne
31 - Coffee
33 - Colbert
35 - Conecuh
37 - Coosa
39 - Covington
41 - Crenshaw
43 - Cullman
45 - Dale
47 - Dallas
49 - De Kalb
51 - Elmore
53 - Escambia
55 - Etowah
57 - Fayette
59 - Franklin
61 - Geneva
63 - Greene
65 - Hale
67 - Henry
69 - Houston
71 - Jackson
73 - Jefferson
75 - Lamar
77 - Lauderdale
79 - Lawrence
81 - Lee
83 - Limestone
85 - Lowndes
87 - Macon
89 - Madison
91 - Marengo
93 - Marion
95 - Marshall
97 - Mobile
99 - Monroe
101 - Montgomery
103 - Morgan
105 - Perry
107 - Pickens
109 - Pike
111 - Randolph
113 - Russell
115 - St. Clair
117 - Shelby
119 - Sumter
121 - Talladega
123 - Tallapoosa
125 - Tuscaloosa
127 - Walker
129 - Washington
131 - Wilcox
133 - Winston

Arizona

1 - Apache
3 - Cochise
5 - Coconino
7 - Gila
9 - Graham
11 - Greenlee
12 - La Paz
13 - Maricopa
15 - Mohave
17 - Navajo
19 - Pima
21 - Pinal
23 - Santa Cruz
25 - Yavapai
27 - Yuma

Arkansas

1 - Arkansas
3 - Ashley
5 - Baxter
7 - Benton
9 - Boone
11 - Bradley
13 - Calhoun
15 - Carroll
17 - Chicot
19 - Clark
21 - Clay
23 - Cleburne
25 - Cleveland
27 - Columbia
29 - Conway
31 - Craighead
33 - Crawford
35 - Crittenden
37 - Cross
39 - Dallas
41 - Desha
43 - Drew
45 - Faulkner
47 - Franklin
49 - Fulton
51 - Garland
53 - Grant
55 - Greene
57 - Hempstead
59 - Hot Spring
61 - Howard
63 - Independence
65 - Izard
67 - Jackson
69 - Jefferson
71 - Johnson
73 - Lafayette
75 - Lawrence
77 - Lee
79 - Lincoln
81 - Little River
83 - Logan
85 - Lonoke
87 - Madison
89 - Marion
91 - Miller
93 - Mississippi
95 - Monroe
97 - Montgomery
99 - Nevada

101 - Newton
103 - Ouachita
105 - Perry
107 - Phillips
109 - Pike
111 - Poinsett
113 - Polk
115 - Pope
117 - Prairie
119 - Pulaski
121 - Randolph
123 - St. Francis
125 - Saline
127 - Scott
129 - Searcy
131 - Sebastian
133 - Sevier
135 - Sharp
137 - Stone
139 - Union
141 - Van Buren
143 - Washington
145 - White
147 - Woodruff
149 - Yell

California

1 - Alameda
3 - Alpine
5 - Amador
7 - Butte
9 - Calaveras
11 - Colusa
13 - Contra Costa
15 - Del Norte
17 - El Dorado
19 - Fresno
21 - Glenn
23 - Humboldt
25 - Imperial
27 - Inyo
29 - Kern
31 - Kings
33 - Lake
35 - Lassen
37 - Los Angeles
39 - Madera
41 - Marin
43 - Mariposa
45 - Mendocino
47 - Merced
49 - Modoc
51 - Mono
53 - Monterey
55 - Napa
57 - Nevada
59 - Orange
61 - Placer
63 - Plumas
65 - Riverside
67 - Sacramento
69 - San Benito
71 - San Bernardino
73 - San Diego
75 - San Francisco
77 - San Joaquin
79 - San Luis Obispo
81 - San Mateo
83 - Santa Barbara
85 - Santa Clara
87 - Santa Cruz
89 - Shasta
91 - Sierra
93 - Siskiyou
95 - Solano
97 - Sonoma
99 - Stanislaus
101 - Sutter
103 - Tehama
105 - Trinity
107 - Tulare
109 - Tuolumne
111 - Ventura
113 - Yolo
115 - Yuba

Colorado

1 - Adams
3 - Alamosa
5 - Arapahoe
7 - Archuleta
9 - Baca
11 - Bent
13 - Boulder
15 - Chaffee
17 - Cheyenne
19 - Clear Creek
21 - Conejos
23 - Costilla
25 - Crowley
27 - Custer
29 - Delta
31 - Denver
33 - Dolores
35 - Douglas
37 - Eagle
39 - Elbert
41 - El Paso
43 - Fremont
45 - Garfield
47 - Gilpin
49 - Grand
51 - Gunnison
53 - Hinsdale
55 - Huerfano
57 - Jackson
59 - Jefferson
61 - Kiowa
63 - Kit Carson
65 - Lake
67 - La Plata
69 - Larimer
71 - Las Animas
73 - Lincoln
75 - Logan
77 - Mesa
79 - Mineral
81 - Moffat
83 - Montezuma
85 - Montrose
87 - Morgan
89 - Otero
91 - Ouray
93 - Park
95 - Phillips
97 - Pitkin
99 - Prowers
101 - Pueblo
103 - Rio Blanco
105 - Rio Grande
107 - Routt
109 - Saguache
111 - San Juan
113 - San Miguel
115 - Sedgwick
117 - Summit
119 - Teller
121 - Washington
123 - Weld
125 - Yuma

Connecticut

1 - Fairfield
3 - Hartford
5 - Litchfield
7 - Middlesex
9 - New Haven
11 - New London
13 - Tolland
15 - Windham

Delaware

1 - Kent
3 - New Castle
5 - Sussex

District of Columbia

1 - Washington

Florida

1 - Alachua
3 - Baker
5 - Bay
7 - Bradford
9 - Brevard
11 - Broward
13 - Calhoun
15 - Charlotte
17 - Citrus
19 - Clay
21 - Collier
23 - Columbia
25 - Dade
27 - De Soto
29 - Dixie
31 - Duval
33 - Escambia
35 - Flagler
37 - Franklin
39 - Gadsden
41 - Gilchrist
43 - Glades
45 - Gulf
47 - Hamilton
49 - Hardee
51 - Hendry
53 - Hernando
55 - Highlands
57 - Hillsborough
59 - Holmes
61 - Indian River
63 - Jackson
65 - Jefferson
67 - Lafayette
69 - Lake
71 - Lee
73 - Leon
75 - Levy
77 - Liberty
79 - Madison
81 - Manatee
83 - Marion
85 - Martin
87 - Monroe
89 - Nassau
91 - Okaloosa
93 - Okeechobee
95 - Orange
97 - Osceola
99 - Palm Beach
101 - Pasco
103 - Pinellas
105 - Polk
107 - Putnam
109 - St. Johns
111 - St. Lucie
113 - Santa Rosa
115 - Sarasota
117 - Seminole
119 - Sumter
121 - Suwannee

123 - Taylor
125 - Union
127 - Volusia
129 - Wakulla
131 - Walton
133 - Washington

Georgia

1 - Appling
3 - Atkinson
5 - Bacon
7 - Baker
9 - Baldwin
11 - Banks
13 - Barrow
15 - Bartow
17 - Ben Hill
19 - Berrien
21 - Bibb
23 - Bleckley
25 - Brantley
27 - Brooks
29 - Bryan
31 - Bulloch
33 - Burke
35 - Butts
37 - Calhoun
39 - Camden
43 - Candler
45 - Carroll
47 - Catoosa
49 - Charlton
51 - Chatham
53 - Chattahoochee
55 - Chattooga
57 - Cherokee
59 - Clarke
61 - Clay
63 - Clayton
65 - Clinch
67 - Cobb
69 - Coffee
71 - Colquitt
73 - Columbia
75 - Cook
77 - Coweta
79 - Crawford
81 - Crisp
83 - Dade
85 - Dawson
87 - Decatur
89 - De Kalb
91 - Dodge
93 - Dooly
95 - Dougherty
97 - Douglas
99 - Early
101 - Echols
103 - Effingham
105 - Elbert
107 - Emanuel
109 - Evans
111 - Fannin
113 - Fayette
115 - Floyd
117 - Forsyth
119 - Franklin
121 - Fulton
123 - Gilmer
125 - Glascock
127 - Glynn
129 - Gordon
131 - Grady
133 - Greene
135 - Gwinnett
137 - Habersham
139 - Hall
141 - Hancock
143 - Haralson
145 - Harris
147 - Hart
149 - Heard
151 - Henry
153 - Houston
155 - Irwin
157 - Jackson
159 - Jasper
161 - Jeff Davis
163 - Jefferson
165 - Jenkins
167 - Johnson
169 - Jones
171 - Lamar
173 - Lanier
175 - Laurens
177 - Lee
179 - Liberty
181 - Lincoln
183 - Long
185 - Lowndes
187 - Lumpkin
189 - McDuffie
191 - McIntosh
193 - Macon
195 - Madison
197 - Marion
199 - Meriwether
201 - Miller
205 - Mitchell
207 - Monroe
209 - Montgomery
211 - Morgan
213 - Murray
215 - Muscogee
217 - Newton
219 - Oconee
221 - Oglethorpe
223 - Paulding
225 - Peach
227 - Pickens
229 - Pierce
231 - Pike
233 - Polk
235 - Pulaski
237 - Putnam
239 - Quitman
241 - Rabun
243 - Randolph
245 - Richmond
247 - Rockdale
249 - Schley
251 - Screven
253 - Seminole
255 - Spalding
257 - Stephens
259 - Stewart
261 - Sumter
263 - Talbot
265 - Taliaferro
267 - Tattnall
269 - Taylor
271 - Telfair
273 - Terrell
275 - Thomas
277 - Tift
279 - Toombs
281 - Towns
283 - Treutlen
285 - Troup
287 - Turner
289 - Twiggs
291 - Union
293 - Upson
295 - Walker
297 - Walton
299 - Ware
301 - Warren
303 - Washington
305 - Wayne
307 - Webster
309 - Wheeler
311 - White
313 - Whitfield
315 - Wilcox
317 - Wilkes
319 - Wilkinson
321 - Worth

Idaho

1 - Ada
3 - Adams
5 - Bannock
7 - Bear Lake
9 - Benewah
11 - Bingham
13 - Blaine
15 - Boise
17 - Bonner
19 - Bonneville
21 - Boundary
23 - Butte
25 - Camas
27 - Canyon
29 - Caribou
31 - Cassia
33 - Clark
35 - Clearwater
37 - Custer
39 - Elmore
41 - Franklin
43 - Fremont
45 - Gem
47 - Gooding
49 - Idaho
51 - Jefferson
53 - Jerome
55 - Kootenai
57 - Latah
59 - Lemhi
61 - Lewis
63 - Lincoln
65 - Madison
67 - Minidoka
69 - Nez Perce
71 - Oneida
73 - Owyhee
75 - Payette
77 - Power
79 - Shoshone
81 - Teton
83 - Twin Falls
85 - Valley
87 - Washington

Illinois

1 - Adams
3 - Alexander
5 - Bond
7 - Boone
9 - Brown
11 - Bureau
13 - Calhoun
15 - Carroll
17 - Cass
19 - Champaign
21 - Christian
23 - Clark
25 - Clay
27 - Clinton
29 - Coles
31 - Cook
33 - Crawford

35 - Cumberland
37 - De Kalb
39 - De Witt
41 - Douglas
43 - Du Page
45 - Edgar
47 - Edwards
49 - Effingham
51 - Fayette
53 - Ford
55 - Franklin
57 - Fulton
59 - Gallatin
61 - Greene
63 - Grundy
65 - Hamilton
67 - Hancock
69 - Hardin
71 - Henderson
73 - Henry
75 - Iroquois
77 - Jackson
79 - Jasper
81 - Jefferson
83 - Jersey
85 - Jo Daviess
87 - Johnson
89 - Kane
91 - Kankakee
93 - Kendall
95 - Knox
97 - Lake
99 - La Salle
101 - Lawrence
103 - Lee
105 - Livingston
107 - Logan
109 - McDonough
111 - McHenry
113 - McLean
115 - Macon
117 - Macoupin
119 - Madison
121 - Marion
123 - Marshall
125 - Mason
127 - Massac
129 - Menard
131 - Mercer
133 - Monroe
135 - Montgomery
137 - Morgan
139 - Moultrie
141 - Ogle
143 - Peoria
145 - Perry
147 - Piatt
149 - Pike
151 - Pope
153 - Pulaski
155 - Putnam
157 - Randolph
159 - Richland
161 - Rock Island
163 - St. Clair
165 - Saline
167 - Sangamon
169 - Schuyler
171 - Scott
173 - Shelby
175 - Stark
177 - Stephenson
179 - Tazewell
181 - Union
183 - Vermilion
185 - Wabash
187 - Warren
189 - Washington
191 - Wayne
193 - White
195 - Whiteside
197 - Will
199 - Williamson
201 - Winnebago
203 - Woodford

Indiana

1 - Adams
3 - Allen
5 - Bartholomew
7 - Benton
9 - Blackford
11 - Boone
13 - Brown
15 - Carroll
17 - Cass
19 - Clark
21 - Clay
23 - Clinton
25 - Crawford
27 - Daviess
29 - Dearborn
31 - Decatur
33 - De Kalb
35 - Delaware
37 - Dubois
39 - Elkhart
41 - Fayette
43 - Floyd
45 - Fountain
47 - Franklin
49 - Fulton
51 - Gibson
53 - Grant
55 - Greene
57 - Hamilton
59 - Hancock
61 - Harrison
63 - Hendricks
65 - Henry
67 - Howard
69 - Huntington
71 - Jackson
73 - Jasper
75 - Jay
77 - Jefferson
79 - Jennings
81 - Johnson
83 - Knox
85 - Kosciusko
87 - Lagrange
89 - Lake
91 - La Porte
93 - Lawrence
95 - Madison
97 - Marion
99 - Marshall
101 - Martin
103 - Miami
105 - Monroe
107 - Montgomery
109 - Morgan
111 - Newton
113 - Noble
115 - Ohio
117 - Orange
119 - Owen
121 - Parke
123 - Perry
125 - Pike
127 - Porter
129 - Posey
131 - Pulaski
133 - Putnam
135 - Randolph
137 - Ripley
139 - Rush
141 - St. Joseph
143 - Scott
145 - Shelby
147 - Spencer
149 - Starke
151 - Steuben
153 - Sullivan
155 - Switzerland
157 - Tippecanoe
159 - Tipton
161 - Union
163 - Vanderburgh
165 - Vermillion
167 - Vigo
169 - Wabash
171 - Warren
173 - Warrick
175 - Washington
177 - Wayne
179 - Wells
181 - White
183 - Whitley

Iowa

1 - Adair
3 - Adams
5 - Allamakee
7 - Appanoose
9 - Audubon
11 - Benton
13 - Black Hawk
15 - Boone
17 - Bremer
19 - Buchanan
21 - Buena Vista
23 - Butler
25 - Calhoun
27 - Carroll
29 - Cass
31 - Cedar
33 - Cerro Gordo
35 - Cherokee
37 - Chickasaw
39 - Clarke
41 - Clay
43 - Clayton
45 - Clinton
47 - Crawford
49 - Dallas
51 - Davis
53 - Decatur
55 - Delaware
57 - Des Moines
59 - Dickinson
61 - Dubuque
63 - Emmet
65 - Fayette
67 - Floyd
69 - Franklin
71 - Fremont
73 - Greene
75 - Grundy
77 - Guthrie
79 - Hamilton
81 - Hancock
83 - Hardin
85 - Harrison
87 - Henry
89 - Howard
91 - Humboldt
93 - Ida
95 - Iowa
97 - Jackson
99 - Jasper
101 - Jefferson

103 - Johnson
105 - Jones
107 - Keokuk
109 - Kossuth
111 - Lee
113 - Linn
115 - Louisa
117 - Lucas
119 - Lyon
121 - Madison
123 - Mahaska
125 - Marion
127 - Marshall
129 - Mills
131 - Mitchell
133 - Monona
135 - Monroe
137 - Montgomery
139 - Muscatine
141 - O'Brien
143 - Osceola
145 - Page
147 - Palo Alto
149 - Plymouth
151 - Pocahontas
153 - Polk
155 - Pottawattamie
157 - Poweshiek
159 - Ringgold
161 - Sac
163 - Scott
165 - Shelby
167 - Sioux
169 - Story
171 - Tama
173 - Taylor
175 - Union
177 - Van Buren
179 - Wapello
181 - Warren
183 - Washington
185 - Wayne
187 - Webster
189 - Winnebago
191 - Winneshiek
193 - Woodbury
195 - Worth
197 - Wright

Kansas

1 - Allen
3 - Anderson
5 - Atchison
7 - Barber
9 - Barton
11 - Bourbon
13 - Brown
15 - Butler
17 - Chase
19 - Chautauqua
21 - Cherokee
23 - Cheyenne
25 - Clark
27 - Clay
29 - Cloud
31 - Coffey
33 - Comanche
35 - Cowley
37 - Crawford
39 - Decatur
41 - Dickinson
43 - Doniphan
45 - Douglas
47 - Edwards
49 - Elk
51 - Ellis
53 - Ellsworth
55 - Finney
57 - Ford
59 - Franklin
61 - Geary
63 - Gove
65 - Graham
67 - Grant
69 - Gray
71 - Greeley
73 - Greenwood
75 - Hamilton
77 - Harper
79 - Harvey
81 - Haskell
83 - Hodgeman
85 - Jackson
87 - Jefferson
89 - Jewell
91 - Johnson
93 - Kearny
95 - Kingman
97 - Kiowa
99 - Labette
101 - Lane
103 - Leavenworth
105 - Lincoln
107 - Linn
109 - Logan
111 - Lyon
113 - McPherson
115 - Marion
117 - Marshall
119 - Meade
121 - Miami
123 - Mitchell
125 - Montgomery
127 - Morris
129 - Morton
131 - Nemaha
133 - Neosho
135 - Ness
137 - Norton
139 - Osage
141 - Osborne
143 - Ottawa
145 - Pawnee
147 - Phillips
149 - Pottawatomie
151 - Pratt
153 - Rawlins
155 - Reno
157 - Republic
159 - Rice
161 - Riley
163 - Rooks
165 - Rush
167 - Russell
169 - Saline
171 - Scott
173 - Sedgwick
175 - Seward
177 - Shawnee
179 - Sheridan
181 - Sherman
183 - Smith
185 - Stafford
187 - Stanton
189 - Stevens
191 - Sumner
193 - Thomas
195 - Trego
197 - Wabaunsee
199 - Wallace
201 - Washington
203 - Wichita
205 - Wilson
207 - Woodson
209 - Wyandotte

Kentucky

1 - Adair
3 - Allen
5 - Anderson
7 - Ballard
9 - Barren
11 - Bath
13 - Bell
15 - Boone
17 - Bourbon
19 - Boyd
21 - Boyle
23 - Bracken
25 - Breathitt
27 - Breckinridge
29 - Bullitt
31 - Butler
33 - Caldwell
35 - Calloway
37 - Campbell
39 - Carlisle
41 - Carroll
43 - Carter
45 - Casey
47 - Christian
49 - Clark
51 - Clay
53 - Clinton
55 - Crittenden
57 - Cumberland
59 - Daviess
61 - Edmonson
63 - Elliott
65 - Estill
67 - Fayette
69 - Fleming
71 - Floyd
73 - Franklin
75 - Fulton
77 - Gallatin
79 - Garrard
81 - Grant
83 - Graves
85 - Grayson
87 - Green
89 - Greenup
91 - Hancock
93 - Hardin
95 - Harlan
97 - Harrison
99 - Hart
101 - Henderson
103 - Henry
105 - Hickman
107 - Hopkins
109 - Jackson
111 - Jefferson
113 - Jessamine
115 - Johnson
117 - Kenton
119 - Knott
121 - Knox
123 - Larue
125 - Laurel
127 - Lawrence
129 - Lee
131 - Leslie
133 - Letcher
135 - Lewis
137 - Lincoln
139 - Livingston
141 - Logan
143 - Lyon
145 - McCracken
147 - McCreary
149 - McLean

151 - Madison
153 - Magoffin
155 - Marion
157 - Marshall
159 - Martin
161 - Mason
163 - Meade
165 - Menifee
167 - Mercer
169 - Metcalfe
171 - Monroe
173 - Montgomery
175 - Morgan
177 - Muhlenberg
179 - Nelson
181 - Nicholas
183 - Ohio
185 - Oldham
187 - Owen
189 - Owsley
191 - Pendleton
193 - Perry
195 - Pike
197 - Powell
199 - Pulaski
201 - Robertson
203 - Rockcastle
205 - Rowan
207 - Russell
209 - Scott
211 - Shelby
213 - Simpson
215 - Spencer
217 - Taylor
219 - Todd
221 - Trigg
223 - Trimble
225 - Union
227 - Warren
229 - Washington
231 - Wayne
233 - Webster
235 - Whitley
237 - Wolfe
239 - Woodford

Louisiana

1 - Acadia
3 - Allen
5 - Ascension
7 - Assumption
9 - Avoyelles
11 - Beauregard
13 - Bienville
15 - Bossier
17 - Caddo
19 - Calcasieu
21 - Caldwell
23 - Cameron
25 - Catahoula
27 - Claiborne
29 - Concordia
31 - De Soto
33 - East Baton Rouge
35 - East Carroll
37 - East Feliciana
39 - Evangeline
41 - Franklin
43 - Grant
45 - Iberia
47 - Iberville
49 - Jackson
51 - Jefferson
53 - Jefferson Davis
55 - Lafayette
57 - LaFourche
59 - La Salle
61 - Lincoln
63 - Livingston
65 - Madison
67 - Morehouse
69 - Natchitoches
71 - Orleans
73 - Ouachita
75 - Plaquemines
77 - Pointe Coupee
79 - Rapides
81 - Red River
83 - Richland
85 - Sabine
87 - St. Bernard
87 - St. Bernard
89 - St. Charles
91 - St. Helena
93 - St. James
95 - St. John the Baptist
97 - St. Landry
99 - St. Martin
101 - St. Mary
103 - St. Tammany
105 - Tangipahoa
107 - Tensas
109 - Terrebonne
111 - Union
113 - Vermilion
115 - Vernon
117 - Washington
119 - Webster
121 - West Baton Rouge
123 - West Carroll
125 - West Feliciana
127 - Winn

Maine

1 - Androscoggin
3 - Aroostook
5 - Cumberland
7 - Franklin
9 - Hancock
11 - Kennebec
13 - Knox
15 - Lincoln
17 - Oxford
19 - Penobscot
21 - Piscataquis
23 - Sagadahoc
25 - Somerset
27 - Waldo
29 - Washington
31 - York

Maryland

1 - Allegany
3 - Anne Arundel
5 - Baltimore
9 - Calvert
11 - Caroline
13 - Carroll
15 - Cecil
17 - Charles
19 - Dorchester
21 - Frederick
23 - Garrett
25 - Harford
27 - Howard
29 - Kent
31 - Montgomery
33 - Prince George's
35 - Queen Anne's
37 - St. Mary's
39 - Somerset
41 - Talbot
43 - Washington
45 - Wicomico
47 - Worcester
510 - Baltimore City

Massachusetts

1 - Barnstable
3 - Berkshire
5 - Bristol
7 - Dukes
9 - Essex
11 - Franklin
13 - Hampden
15 - Hampshire
17 - Middlesex
19 - Nantucket
21 - Norfolk
23 - Plymouth
25 - Suffolk
27 - Worcester

Michigan

1 - Alcona
3 - Alger
5 - Allegan
7 - Alpena
9 - Antrim
11 - Arenac
13 - Baraga
15 - Barry
17 - Bay
19 - Benzie
21 - Berrien
23 - Branch
25 - Calhoun
27 - Cass
29 - Charlevoix
31 - Cheboygan
33 - Chippewa
35 - Clare
37 - Clinton
39 - Crawford
41 - Delta
43 - Dickinson
45 - Eaton
47 - Emmet
49 - Genesee
51 - Gladwin
53 - Gogebic
55 - Grand Traverse
57 - Gratiot
59 - Hillsdale
61 - Houghton
63 - Huron
65 - Ingham
67 - Ionia
69 - Iosco
71 - Iron
73 - Isabella
75 - Jackson
77 - Kalamazoo
79 - Kalkaska
81 - Kent
83 - Keweenaw
85 - Lake
87 - Lapeer
89 - Leelanau
91 - Lenawee
93 - Livingston
95 - Luce
97 - Mackinac
99 - Macomb
101 - Manistee
103 - Marquette
105 - Mason
107 - Mecosta
109 - Menominee

111 - Midland
113 - Missaukee
115 - Monroe
117 - Montcalm
119 - Montmorency
121 - Muskegon
123 - Newaygo
125 - Oakland
127 - Oceana
129 - Ogemaw
131 - Ontonagon
133 - Osceola
135 - Oscoda
137 - Otsego
139 - Ottawa
141 - Presque Isle
143 - Roscommon
145 - Saginaw
147 - St. Clair
149 - St. Joseph
151 - Sanilac
153 - Schoolcraft
155 - Shiawassee
157 - Tuscola
159 - Van Buren
161 - Washtenaw
163 - Wayne
165 - Wexford

Minnesota

1 - Aitkin
3 - Anoka
5 - Becker
7 - Beltrami
9 - Benton
11 - Big Stone
13 - Blue Earth
15 - Brown
17 - Carlton
19 - Carver
21 - Cass
23 - Chippewa
25 - Chisago
27 - Clay
29 - Clearwater
31 - Cook
33 - Cottonwood
35 - Crow Wing
37 - Dakota
39 - Dodge
41 - Douglas
43 - Faribault
45 - Fillmore
47 - Freeborn
49 - Goodhue
51 - Grant
53 - Hennepin
55 - Houston
57 - Hubbard
59 - Isanti
61 - Itasca
63 - Jackson
65 - Kanabec
67 - Kandiyohi
69 - Kittson
71 - Koochiching
73 - Lac Qui Parle
75 - Lake
77 - Lake of the Woods
79 - Le Sueur
81 - Lincoln
83 - Lyon
85 - McLeod
87 - Mahnomen
89 - Marshall
91 - Martin
93 - Meeker
95 - Mille Lacs
97 - Morrison
99 - Mower
101 - Murray
103 - Nicollet
105 - Nobles
107 - Norman
109 - Olmsted
111 - Otter Tail
113 - Pennington
115 - Pine
117 - Pipestone
119 - Polk
121 - Pope
123 - Ramsey
125 - Red Lake
127 - Redwood
129 - Renville
131 - Rice
133 - Rock
135 - Roseau
137 - St. Louis
139 - Scott
141 - Sherburne
143 - Sibley
145 - Stearns
147 - Steele
149 - Stevens
151 - Swift
153 - Todd
155 - Traverse
157 - Wabasha
159 - Wadena
161 - Waseca
163 - Washington
165 - Watonwan
167 - Wilkin
169 - Winona
171 - Wright
173 - Yellow Medicine

Mississippi

1 - Adams
3 - Alcorn
5 - Amite
7 - Attala
9 - Benton
11 - Bolivar
13 - Calhoun
15 - Carroll
17 - Chickasaw
19 - Choctaw
21 - Claiborne
23 - Clarke
25 - Clay
27 - Coahoma
29 - Copiah
31 - Covington
33 - De Soto
35 - Forrest
37 - Franklin
39 - George
41 - Greene
43 - Grenada
45 - Hancock
47 - Harrison
49 - Hinds
51 - Holmes
53 - Humphreys
55 - Issaquena
57 - Itawamba
59 - Jackson
61 - Jasper
63 - Jefferson
65 - Jefferson Davis
67 - Jones
69 - Kemper
71 - Lafayette
73 - Lamar
75 - Lauderdale
77 - Lawrence
79 - Leake
81 - Lee
83 - Leflore
85 - Lincoln
87 - Lowndes
89 - Madison
91 - Marion
93 - Marshall
95 - Monroe
97 - Montgomery
99 - Neshoba
101 - Newton
103 - Noxubee
105 - Oktibbeha
107 - Panola
109 - Pearl River
111 - Perry
113 - Pike
115 - Pontotoc
117 - Prentiss
119 - Quitman
121 - Rankin
123 - Scott
125 - Sharkey
127 - Simpson
129 - Smith
131 - Stone
133 - Sunflower
135 - Tallahatchie
137 - Tate
139 - Tippah
141 - Tishomingo
143 - Tunica
145 - Union
147 - Walthall
149 - Warren
151 - Washington
153 - Wayne
155 - Webster
157 - Wilkinson
159 - Winston
161 - Yalobusha
163 - Yazoo

Missouri

1 - Adair
3 - Andrew
5 - Atchison
7 - Audrain
9 - Barry
11 - Barton
13 - Bates
15 - Benton
17 - Bollinger
19 - Boone
21 - Buchanan
23 - Butler
25 - Caldwell
27 - Callaway
29 - Camden
31 - Cape Girardeau
33 - Carroll
35 - Carter
37 - Cass
39 - Cedar
41 - Chariton
43 - Christian
45 - Clark
47 - Clay
49 - Clinton
51 - Cole
53 - Cooper

55 - Crawford
57 - Dade
59 - Dallas
61 - Daviess
63 - De Kalb
65 - Dent
67 - Douglas
69 - Dunklin
71 - Franklin
73 - Gasconade
75 - Gentry
77 - Greene
79 - Grundy
81 - Harrison
83 - Henry
85 - Hickory
87 - Holt
89 - Howard
91 - Howell
93 - Iron
95 - Jackson
97 - Jasper
99 - Jefferson
101 - Johnson
103 - Knox
105 - Laclede
107 - Lafayette
109 - Lawrence
111 - Lewis
113 - Lincoln
115 - Linn
117 - Livingston
119 - McDonald
121 - Macon
123 - Madison
125 - Maries
127 - Marion
129 - Mercer
131 - Miller
133 - Mississippi
135 - Moniteau
137 - Monroe
139 - Montgomery
141 - Morgan
143 - New Madrid
145 - Newton
147 - Nodaway
149 - Oregon
151 - Osage
153 - Ozark
155 - Pemiscot
157 - Perry
159 - Pettis
161 - Phelps
163 - Pike
165 - Platte
167 - Polk
169 - Pulaski
171 - Putnam
173 - Ralls
175 - Randolph
177 - Ray
179 - Reynolds
181 - Ripley
183 - St. Charles
185 - St. Clair
187 - St. Francois
189 - St. Louis
193 - Ste. Genevieve
195 - Saline
197 - Schuyler
199 - Scotland
201 - Scott
203 - Shannon
205 - Shelby
207 - Stoddard
209 - Stone
211 - Sullivan
213 - Taney
215 - Texas
217 - Vernon
219 - Warren
221 - Washington
223 - Wayne
225 - Webster
227 - Worth
229 - Wright
510 - St. Louis City

Montana

1 - Beaverhead
3 - Big Horn
5 - Blaine
7 - Broadwater
9 - Carbon
11 - Carter
13 - Cascade
15 - Chouteau
17 - Custer
19 - Daniels
21 - Dawson
23 - Deer Lodge
25 - Fallon
27 - Fergus
29 - Flathead
31 - Gallatin
33 - Garfield
35 - Glacier
37 - Golden Valley
39 - Granite
41 - Hill
43 - Jefferson
45 - Judith Basin
47 - Lake
49 - Lewis and Clark
51 - Liberty
53 - Lincoln
55 - McCone
57 - Madison
59 - Meagher
61 - Mineral
63 - Missoula
65 - Musselshell
67 - Park
69 - Petroleum
71 - Phillips
73 - Pondera
75 - Powder River
77 - Powell
79 - Prairie
81 - Ravalli
83 - Richland
85 - Roosevelt
87 - Rosebud
89 - Sanders
91 - Sheridan
93 - Silver Bow
95 - Stillwater
97 - Sweet Grass
99 - Teton
101 - Toole
103 - Treasure
105 - Valley
107 - Wheatland
109 - Wibaux
111 - Yellowstone
113 - Yellowstone National Park (Part)

Nebraska

1 - Adams
3 - Antelope
5 - Arthur
7 - Banner
9 - Blaine
11 - Boone
13 - Box Butte
15 - Boyd
17 - Brown
19 - Buffalo
21 - Burt
23 - Butler
25 - Cass
27 - Cedar
29 - Chase
31 - Cherry
33 - Cheyenne
35 - Clay
37 - Colfax
39 - Cuming
41 - Custer
43 - Dakota
45 - Dawes
47 - Dawson
49 - Deuel
51 - Dixon
53 - Dodge
55 - Douglas
57 - Dundy
59 - Fillmore
61 - Franklin
63 - Frontier
65 - Furnas
67 - Gage
69 - Garden
71 - Garfield
73 - Gosper
75 - Grant
77 - Greeley
79 - Hall
81 - Hamilton
83 - Harlan
85 - Hayes
87 - Hitchcock
89 - Holt
91 - Hooker
93 - Howard
95 - Jefferson
97 - Johnson
99 - Kearney
101 - Keith
103 - Keya Paha
105 - Kimball
107 - Knox
109 - Lancaster
111 - Lincoln
113 - Logan
115 - Loup
117 - McPherson
119 - Madison
121 - Merrick
123 - Morrill
125 - Nance
127 - Nemaha
129 - Nuckolls
131 - Otoe
133 - Pawnee
135 - Perkins
137 - Phelps
139 - Pierce
141 - Platte
143 - Polk
145 - Red Willow
147 - Richardson
149 - Rock
151 - Saline
153 - Sarpy
155 - Saunders
157 - Scotts Bluff
159 - Seward
161 - Sheridan

163 - Sherman
165 - Sioux
167 - Stanton
169 - Thayer
171 - Thomas
173 - Thurston
175 - Valley
177 - Washington
179 - Wayne
181 - Webster
183 - Wheeler
185 - York

Nevada

1 - Churchill
3 - Clark
5 - Douglas
7 - Elko
9 - Esmeralda
11 - Eureka
13 - Humboldt
15 - Lander
17 - Lincoln
19 - Lyon
21 - Mineral
23 - Nye
27 - Pershing
29 - Storey
31 - Washoe
33 - White Pine
510 - Carson City

New Hampshire

1 - Belknap
3 - Carroll
5 - Cheshire
7 - Coos
9 - Grafton
11 - Hillsborough
13 - Merrimack
15 - Rockingham
17 - Strafford
19 - Sullivan

New Jersey

1 - Atlantic
3 - Bergen
5 - Burlington
7 - Camden
9 - Cape May
11 - Cumberland
13 - Essex
15 - Gloucester
17 - Hudson
19 - Hunterdon
21 - Mercer
23 - Middlesex
25 - Monmouth
27 - Morris
29 - Ocean
31 - Passaic
33 - Salem
35 - Somerset
37 - Sussex
39 - Union
41 - Warren

New Mexico

1 - Bernalillo
3 - Catron
5 - Chaves
6 - Cibola
7 - Colfax
9 - Curry
11 - De Baca
13 - Dona Ana
15 - Eddy
17 - Grant
19 - Guadalupe
21 - Harding
23 - Hidalgo
25 - Lea
27 - Lincoln
28 - Los Alamos
29 - Luna
31 - McKinley
33 - Mora
35 - Otero
37 - Quay
39 - Rio Arriba
41 - Roosevelt
43 - Sandoval
45 - San Juan
47 - San Miguel
49 - Santa Fe
51 - Sierra
53 - Socorro
55 - Taos
57 - Torrance
59 - Union
61 - Valencia

New York

1 - Albany
3 - Allegany
5 - Bronx
7 - Broome
9 - Cattaraugus
11 - Cayuga
13 - Chautauqua
15 - Chemung
17 - Chenango
19 - Clinton
21 - Columbia
23 - Cortland
25 - Delaware
27 - Dutchess
29 - Erie
31 - Essex
33 - Franklin
35 - Fulton
37 - Genesee
39 - Greene
41 - Hamilton
43 - Herkimer
45 - Jefferson
47 - Kings
49 - Lewis
51 - Livingston
53 - Madison
55 - Monroe
57 - Montgomery
59 - Nassau
61 - New York
63 - Niagara
65 - Oneida
67 - Onondaga
69 - Ontario
71 - Orange
73 - Orleans
75 - Oswego
77 - Otsego
79 - Putnam
81 - Queens
83 - Rensselaer
85 - Richmond
87 - Rockland
89 - St. Lawrence
91 - Saratoga
93 - Schenectady
95 - Schoharie
97 - Schuyler
99 - Seneca
101 - Steuben
103 - Suffolk
105 - Sullivan
107 - Tioga
109 - Tompkins
111 - Ulster
113 - Warren
115 - Washington
117 - Wayne
119 - Westchester
121 - Wyoming
123 - Yates

North Carolina

1 - Alamance
3 - Alexander
5 - Alleghany
7 - Anson
9 - Ashe
11 - Avery
13 - Beaufort
15 - Bertie
17 - Bladen
19 - Brunswick
21 - Buncombe
23 - Burke
25 - Cabarrus
27 - Caldwell
29 - Camden
31 - Carteret
33 - Caswell
35 - Catawba
37 - Chatham
39 - Cherokee
41 - Chowan
43 - Clay
45 - Cleveland
47 - Columbus
49 - Craven
51 - Cumberland
53 - Currituck
55 - Dare
57 - Davidson
59 - Davie
61 - Duplin
63 - Durham
65 - Edgecombe
67 - Forsyth
69 - Franklin
71 - Gaston
73 - Gates
75 - Graham
77 - Granville
79 - Greene
81 - Guilford
83 - Halifax
85 - Harnett
87 - Haywood
89 - Henderson
91 - Hertford
93 - Hoke
95 - Hyde
97 - Iredell
99 - Jackson
101 - Johnston
103 - Jones
105 - Lee
107 - Lenoir
109 - Lincoln
111 - McDowell
113 - Macon
115 - Madison
117 - Martin
119 - Mecklenburg
121 - Mitchell
123 - Montgomery
125 - Moore
127 - Nash
129 - New Hanover

131 - Northampton
133 - Onslow
135 - Orange
137 - Pamlico
139 - Pasquotank
141 - Pender
143 - Perquimans
145 - Person
147 - Pitt
149 - Polk
151 - Randolph
153 - Richmond
155 - Robeson
157 - Rockingham
159 - Rowan
161 - Rutherford
163 - Sampson
165 - Scotland
167 - Stanly
169 - Stokes
171 - Surry
173 - Swain
175 - Transylvania
177 - Tyrrell
177 - Tyrrell
179 - Union
181 - Vance
183 - Wake
185 - Warren
187 - Washington
189 - Watauga
191 - Wayne
193 - Wilkes
195 - Wilson
197 - Yadkin
199 - Yancey

North Dakota

1 - Adams
3 - Barnes
5 - Benson
7 - Billings
9 - Bottineau
11 - Bowman
13 - Burke
15 - Burleigh
17 - Cass
19 - Cavalier
21 - Dickey
23 - Divide
25 - Dunn
27 - Eddy
29 - Emmons
31 - Foster
33 - Golden Valley
35 - Grand Forks
37 - Grant
39 - Griggs
41 - Hettinger
43 - Kidder
45 - La Moure
47 - Logan
49 - McHenry
51 - McIntosh
53 - McKenzie
55 - McLean
57 - Mercer
59 - Morton
61 - Mountrail
63 - Nelson
65 - Oliver
67 - Pembina
69 - Pierce
71 - Ramsey
73 - Ransom
75 - Renville
77 - Richland
79 - Rolette
81 - Sargent
83 - Sheridan
85 - Sioux
87 - Slope
89 - Stark
91 - Steele
93 - Stutsman
95 - Towner
97 - Traill
99 - Walsh
101 - Ward
103 - Wells
105 - Williams

Ohio

1 - Adams
3 - Allen
5 - Ashland
7 - Ashtabula
9 - Athens
1 - Auglaize
13 - Belmont
15 - Brown
17 - Butler
19 - Carroll
21 - Champaign
23 - Clark
25 - Clermont
27 - Clinton
29 - Columbiana
31 - Coshocton
33 - Crawford
35 - Cuyahoga
37 - Darke
39 - Defiance
41 - Delaware
43 - Erie
45 - Fairfield
47 - Fayette
49 - Franklin
51 - Fulton
53 - Gallia
55 - Geauga
57 - Greene
59 - Guernsey
61 - Hamilton
63 - Hancock
65 - Hardin
67 - Harrison
69 - Henry
71 - Highland
73 - Hocking
75 - Holmes
77 - Huron
79 - Jackson
81 - Jefferson
83 - Knox
85 - Lake
87 - Lawrence
89 - Licking
91 - Logan
93 - Lorain
95 - Lucas
95 - Lucas
97 - Madison
99 - Mahoning
101 - Marion
103 - Medina
105 - Meigs
107 - Mercer
109 - Miami
111 - Monroe
113 - Montgomery
115 - Morgan
117 - Morrow
119 - Muskingum
121 - Noble
123 - Ottawa
125 - Paulding
127 - Perry
129 - Pickaway
131 - Pike
133 - Portage
135 - Preble
137 - Putnam
139 - Richland
141 - Ross
143 - Sandusky
145 - Scioto
147 - Seneca
149 - Shelby
151 - Stark
153 - Summit
155 - Trumbull
157 - Tuscarawas
159 - Union
161 - Van Wert
163 - Vinton
165 - Warren
167 - Washington
169 - Wayne
171 - Williams
173 - Wood
175 - Wyandot

Oklahoma

1 - Adair
3 - Alfalfa
5 - Atoka
7 - Beaver
9 - Beckham
11 - Blaine
13 - Bryan
15 - Caddo
17 - Canadian
19 - Carter
21 - Cherokee
23 - Choctaw
25 - Cimarron
27 - Cleveland
29 - Coal
31 - Comanche
33 - Cotton
35 - Craig
37 - Creek
39 - Custer
41 - Delaware
43 - Dewey
45 - Ellis
47 - Garfield
49 - Garvin
51 - Grady
53 - Grant
55 - Greer
57 - Harmon
59 - Harper
61 - Haskell
63 - Hughes
65 - Jackson
67 - Jefferson
69 - Johnston
71 - Kay
73 - Kingfisher
75 - Kiowa
77 - Latimer
79 - Le Flore
81 - Lincoln
83 - Logan
85 - Love
87 - McClain
89 - McCurtain
91 - McIntosh
93 - Major
95 - Marshall

97 - Mayes
99 - Murray
101 - Muskogee
103 - Noble
105 - Nowata
107 - Okfuskee
109 - Oklahoma
111 - Okmulgee
113 - Osage
115 - Ottawa
117 - Pawnee
119 - Payne
121 - Pittsburg
123 - Pontotoc
125 - Pottawatomie
127 - Pushmataha
129 - Roger Mills
131 - Rogers
133 - Seminole
135 - Sequoyah
137 - Stephens
139 - Texas
141 - Tillman
143 - Tulsa
145 - Wagoner
147 - Washington
149 - Washita
151 - Woods
153 - Woodward

Oregon

1 - Baker
3 - Benton
5 - Clackamas
7 - Clatsop
9 - Columbia
11 - Coos
13 - Crook
15 - Curry
17 - Deschutes
19 - Douglas
21 - Gilliam
23 - Grant
25 - Harney
27 - Hood River
29 - Jackson
31 - Jefferson
33 - Josephine
35 - Klamath
37 - Lake
39 - Lane
41 - Lincoln
43 - Linn
45 - Malheur
47 - Marion
49 - Morrow
51 - Multnomah
53 - Polk
55 - Sherman
57 - Tillamook
59 - Umatilla
61 - Union
63 - Wallowa
65 - Wasco
67 - Washington
69 - Wheeler
71 - Yamhill

Pennsylvania

1 - Adams
3 - Allegheny
5 - Armstrong
7 - Beaver
9 - Bedford
11 - Berks
13 - Blair
15 - Bradford
17 - Bucks
19 - Butler
21 - Cambria
23 - Cameron
25 - Carbon
27 - Centre
29 - Chester
31 - Clarion
33 - Clearfield
35 - Clinton
37 - Columbia
39 - Crawford
41 - Cumberland
43 - Dauphin
45 - Delaware
47 - Elk
49 - Erie
51 - Fayette
53 - Forest
55 - Franklin
57 - Fulton
59 - Greene
61 - Huntingdon
63 - Indiana
65 - Jefferson
67 - Juniata
69 - Lackawanna
71 - Lancaster
73 - Lawrence
75 - Lebanon
77 - Lehigh
79 - Luzerne
81 - Lycoming
83 - McKean
85 - Mercer
87 - Mifflin
89 - Monroe
91 - Montgomery
93 - Montour
95 - Northampton
97 - Northumberland
99 - Perry
101 - Philadelphia
103 - Pike
105 - Potter
107 - Schuylkill
109 - Snyder
111 - Somerset
113 - Sullivan
115 - Susquehanna
117 - Tioga
119 - Union
121 - Venango
123 - Warren
125 - Washington
127 - Wayne
129 - Westmoreland
131 - Wyoming
133 - York

Rhode Island

1 - Bristol
3 - Kent
5 - Newport
7 - Providence
9 - Washington

South Carolina

1 - Abbeville
3 - Aiken
5 - Allendale
7 - Anderson
9 - Bamberg
11 - Barnwell
13 - Beaufort
15 - Berkeley
17 - Calhoun
19 - Charleston
21 - Cherokee
23 - Chester
25 - Chesterfield
27 - Clarendon
29 - Colleton
31 - Darlington
33 - Dillon
35 - Dorchester
37 - Edgefield
39 - Fairfield
41 - Florence
43 - Georgetown
45 - Greenville
47 - Greenwood
49 - Hampton
51 - Horry
53 - Jasper
55 - Kershaw
57 - Lancaster
59 - Laurens
61 - Lee
63 - Lexington
65 - McCormick
67 - Marion
69 - Marlboro
71 - Newberry
73 - Oconee
75 - Orangeburg
77 - Pickens
79 - Richland
81 - Saluda
83 - Spartanburg
85 - Sumter
87 - Union
89 - Williamsburg
91 - York

South Dakota

3 - Aurora
5 - Beadle
7 - Bennett
9 - Bon Homme
11 - Brookings
13 - Brown
15 - Brule
17 - Buffalo
19 - Butte
21 - Campbell
23 - Charles Mix
25 - Clark
27 - Clay
29 - Codington
31 - Corson
33 - Custer
35 - Davison
37 - Day
39 - Deuel
41 - Dewey
43 - Douglas
45 - Edmunds
47 - Fall River
49 - Faulk
51 - Grant
53 - Gregory
55 - Haakon
57 - Hamlin
59 - Hand
61 - Hanson
63 - Harding
65 - Hughes
67 - Hutchinson
69 - Hyde
71 - Jackson
73 - Jerauld
75 - Jones
77 - Kingsbury
79 - Lake

81 - Lawrence
83 - Lincoln
85 - Lyman
87 - McCook
89 - McPherson
91 - Marshall
93 - Meade
95 - Mellette
97 - Miner
99 - Minnehaha
101 - Moody
103 - Pennington
105 - Perkins
107 - Potter
109 - Roberts
111 - Sanborn
113 - Shannon
115 - Spink
117 - Stanley
119 - Sully
121 - Todd
123 - Tripp
125 - Turner
127 - Union
129 - Walworth
135 - Yankton
137 - Ziebach

Tennessee

1 - Anderson
3 - Bedford
5 - Benton
7 - Bledsoe
9 - Blount
11 - Bradley
13 - Campbell
15 - Cannon
17 - Carroll
19 - Carter
21 - Cheatham
23 - Chester
25 - Claiborne
27 - Clay
29 - Cocke
31 - Coffee
33 - Crockett
35 - Cumberland
37 - Davidson
39 - Decatur
41 - De Kalb
43 - Dickson
45 - Dyer
47 - Fayette
49 - Fentress
51 - Franklin
53 - Gibson
55 - Giles
57 - Grainger
59 - Greene
61 - Grundy
63 - Hamblen
65 - Hamilton
67 - Hancock
69 - Hardeman
71 - Hardin
73 - Hawkins
75 - Haywood
77 - Henderson
79 - Henry
81 - Hickman
83 - Houston
85 - Humphreys
87 - Jackson
89 - Jefferson
91 - Johnson
93 - Knox
95 - Lake
97 - Lauderdale
99 - Lawrence
101 - Lewis
103 - Lincoln
105 - Loudon
107 - McMinn
109 - McNairy
111 - Macon
113 - Madison
115 - Marion
117 - Marshall
119 - Maury
121 - Meigs
123 - Monroe
125 - Montgomery
127 - Moore
129 - Morgan
131 - Obion
133 - Overton
135 - Perry
137 - Pickett
139 - Polk
141 - Putnam
143 - Rhea
145 - Roane
147 - Robertson
149 - Rutherford
151 - Scott
153 - Sequatchie
155 - Sevier
157 - Shelby
159 - Smith
161 - Stewart
163 - Sullivan
165 - Sumner
167 - Tipton
169 - Trousdale
171 - Unicoi
173 - Union
175 - Van Buren
177 - Warren
179 - Washington
181 - Wayne
183 - Weakley
185 - White
187 - Williamson
189 - Wilson

Texas

1 - Anderson
3 - Andrews
5 - Angelina
7 - Aransas
9 - Archer
11 - Armstrong
13 - Atascosa
15 - Austin
17 - Bailey
19 - Bandera
21 - Bastrop
23 - Baylor
25 - Bee
27 - Bell
29 - Bexar
31 - Blanco
33 - Borden
35 - Bosque
37 - Bowie
39 - Brazoria
41 - Brazos
43 - Brewster
45 - Briscoe
47 - Brooks
49 - Brown
51 - Burleson
53 - Burnet
55 - Caldwell
57 - Calhoun
59 - Callahan
61 - Cameron
63 - Camp
65 - Carson
67 - Cass
69 - Castro
71 - Chambers
73 - Cherokee
75 - Childress
77 - Clay
79 - Cochran
81 - Coke
83 - Coleman
85 - Collin
87 - Collingsworth
89 - Colorado
91 - Comal
93 - Comanche
95 - Concho
97 - Cooke
99 - Coryell
101 - Cottle
103 - Crane
105 - Crockett
107 - Crosby
109 - Culberson
111 - Dallam
113 - Dallas
115 - Dawson
117 - Deaf Smith
119 - Delta
121 - Denton
123 - De Witt
125 - Dickens
127 - Dimmit
129 - Donley
131 - Duval
133 - Eastland
135 - Ector
137 - Edwards
139 - Ellis
141 - El Paso
143 - Erath
145 - Falls
147 - Fannin
149 - Fayette
151 - Fisher
153 - Floyd
155 - Foard
157 - Fort Bend
159 - Franklin
161 - Freestone
163 - Frio
165 - Gaines
167 - Galveston
169 - Garza
171 - Gillespie
173 - Glasscock
175 - Goliad
177 - Gonzales
179 - Gray
181 - Grayson
183 - Gregg
185 - Grimes
187 - Guadalupe
189 - Hale
191 - Hall
193 - Hamilton
195 - Hansford
197 - Hardeman
199 - Hardin
201 - Harris
203 - Harrison
205 - Hartley
207 - Haskell
209 - Hays
211 - Hemphill

213 - Henderson
215 - Hidalgo
217 - Hill
219 - Hockley
221 - Hood
223 - Hopkins
225 - Houston
227 - Howard
229 - Hudspeth
231 - Hunt
233 - Hutchinson
235 - Irion
237 - Jack
239 - Jackson
241 - Jasper
243 - Jeff Davis
245 - Jefferson
247 - Jim Hogg
249 - Jim Wells
251 - Johnson
253 - Jones
255 - Karnes
257 - Kaufman
259 - Kendall
261 - Kenedy
263 - Kent
265 - Kerr
267 - Kimble
269 - King
271 - Kinney
273 - Kleberg
275 - Knox
277 - Lamar
279 - Lamb
281 - Lampasas
283 - La Salle
285 - Lavaca
287 - Lee
289 - Leon
291 - Liberty
293 - Limestone
295 - Lipscomb
297 - Live Oak
299 - Llano
301 - Loving
303 - Lubbock
305 - Lynn
307 - McCulloch
309 - McLennan
311 - McMullen
313 - Madison
315 - Marion
317 - Martin
319 - Mason
321 - Matagorda
323 - Maverick
325 - Medina
327 - Menard
329 - Midland
331 - Milam
333 - Mills
335 - Mitchell
337 - Montague
339 - Montgomery
341 - Moore
343 - Morris
345 - Motley
347 - Nacogdoches
349 - Navarro
351 - Newton
353 - Nolan
355 - Nueces
357 - Ochiltree
359 - Oldham
361 - Orange
363 - Palo Pinto
365 - Panola
367 - Parker
369 - Parmer
371 - Pecos
373 - Polk
375 - Potter
377 - Presidio
379 - Rains
381 - Randall
383 - Reagan
385 - Real
387 - Red River
389 - Reeves
391 - Refugio
393 - Roberts
395 - Robertson
397 - Rockwall
399 - Runnels
401 - Rusk
403 - Sabine
405 - San Augustine
407 - San Jacinto
409 - San Patricio
411 - San Saba
413 - Schleicher
415 - Scurry
417 - Shackelford
419 - Shelby
421 - Sherman
423 - Smith
425 - Somervell
427 - Starr
429 - Stephens
431 - Sterling
433 - Stonewall
435 - Sutton
437 - Swisher
439 - Tarrant
441 - Taylor
443 - Terrell
445 - Terry
447 - Throckmorton
449 - Titus
451 - Tom Green
453 - Travis
455 - Trinity
457 - Tyler
459 - Upshur
461 - Upton
463 - Uvalde
465 - Val Verde
467 - Van Zandt
469 - Victoria
471 - Walker
473 - Waller
475 - Ward
477 - Washington
479 - Webb
481 - Wharton
483 - Wheeler
485 - Wichita
487 - Wilbarger
489 - Willacy
491 - Williamson
493 - Wilson
495 - Winkler
497 - Wise
499 - Wood
501 - Yoakum
503 - Young
505 - Zapata
507 - Zavala

Utah

1 - Beaver
3 - Box Elder
5 - Cache
7 - Carbon
9 - Daggett
11 - Davis
13 - Duchesne
15 - Emery
17 - Garfield
19 - Grand
21 - Iron
23 - Juab
25 - Kane
27 - Millard
29 - Morgan
31 - Piute
33 - Rich
35 - Salt Lake
37 - San Juan
39 - Sanpete
41 - Sevier
43 - Summit
45 - Tooele
47 - Uintah
49 - Utah
51 - Wasatch
53 - Washington
55 - Wayne
57 - Weber

Vermont

1 - Addison
3 - Bennington
5 - Caledonia
7 - Chittenden
9 - Essex
11 - Franklin
13 - Grand Isle
15 - Lamoille
17 - Orange
19 - Orleans
21 - Rutland
23 - Washington
25 - Windham
27 - Windsor

Virginia

1 - Accomack
3 - Albemarle
5 - Alleghany
7 - Amelia
9 - Amherst
11 - Appomattox
13 - Arlington
15 - Augusta
17 - Bath
19 - Bedford
21 - Bland
23 - Botetourt
25 - Brunswick
27 - Buchanan
29 - Buckingham
31 - Campbell
33 - Caroline
35 - Carroll
36 - Charles City
37 - Charlotte
41 - Chesterfield
43 - Clarke
45 - Craig
47 - Culpeper
49 - Cumberland
51 - Dickenson
53 - Dinwiddie
57 - Essex
59 - Fairfax
61 - Fauquier
63 - Floyd
65 - Fluvanna
67 - Franklin
69 - Frederick
71 - Giles

73 - Gloucester
75 - Goochland
77 - Grayson
79 - Greene
81 - Greensville
83 - Halifax
85 - Hanover
87 - Henrico
89 - Henry
91 - Highland
93 - Isle of Wight
95 - James City
97 - King and Queen
99 - King George
101 - King William
103 - Lancaster
105 - Lee
107 - Loudoun
109 - Louisa
111 - Lunenburg
113 - Madison
115 - Mathews
117 - Mecklenburg
119 - Middlesex
121 - Montgomery
125 - Nelson
127 - New Kent
131 - Northampton
133 - Northumberland
135 - Nottoway
137 - Orange
139 - Page
141 - Patrick
143 - Pittsylvania
145 - Powhatan
147 - Prince Edward
149 - Prince George
153 - Prince William
155 - Pulaski
157 - Rappahannock
159 - Richmond
161 - Roanoke
163 - Rockbridge
165 - Rockingham
167 - Russell
169 - Scott
171 - Shenandoah
173 - Smyth
175 - Southampton
177 - Spotsylvania
179 - Stafford
181 - Surry
183 - Sussex
185 - Tazewell
187 - Warren
191 - Washington
193 - Westmoreland
195 - Wise
197 - Wythe
199 - York
510 - Alexandria
515 - Bedford
520 - Bristol
530 - Buena Vista
540 - Charlottesville
550 - Chesapeake
560 - Clifton Forge
570 - Colonial Heights
580 - Covington
590 - Danville
595 - Emporia
600 - Fairfax
610 - Falls Chruch
620 - Franklin
630 - Fredericksburg
640 - Galax
650 - Hampton
660 - Harrisonburg
670 - Hopewell
678 - Lexington
680 - Lynchburg
683 - Manassas
685 - Manassas Park
690 - Martinsville
700 - Newport News
710 - Norfolk
720 - Norton
730 - Petersburg
735 - Poquoson
740 - Portsmouth
750 - Radford
760 - Richmond
770 - Roanoke
775 - Salem
780 - South Boston
790 - Staunton
800 - Suffolk
810 - Virginia Beach
820 - Waynesboro
830 - Williamsburg
840 - Winchester

Washington

1 - Adams
3 - Asotin
5 - Benton
7 - Chelan
9 - Clallam
11 - Clark
13 - Columbia
15 - Cowlitz
17 - Douglas
19 - Ferry
21 - Franklin
23 - Garfield
25 - Grant
27 - Grays Harbor
29 - Island
31 - Jefferson
33 - King
35 - Kitsap
37 - Kittitas
39 - Klickitat
41 - Lewis
43 - Lincoln
45 - Mason
47 - Okanogan
49 - Pacific
51 - Pend Oreille
53 - Pierce
55 - San Juan
57 - Skagit
59 - Skamania
61 - Snohomish
63 - Spokane
65 - Stevens
67 - Thurston
69 - Wahkiakum
71 - Walla Walla
73 - Whatcom
75 - Whitman
77 - Yakima

West Virginia

1 - Barbour
3 - Berkeley
5 - Boone
7 - Braxton
9 - Brooke
11 - Cabell
13 - Calhoun
15 - Clay
17 - Doddridge
19 - Fayette
21 - Gilmer
23 - Grant
25 - Greenbrier
27 - Hampshire
29 - Hancock
31 - Hardy
33 - Harrison
35 - Jackson
37 - Jefferson
39 - Kanawha
41 - Lewis
43 - Lincoln
45 - Logan
47 - McDowell
49 - Marion
51 - Marshall
53 - Mason
55 - Mercer
57 - Mineral
59 - Mingo
61 - Monongalia
63 - Monroe
65 - Morgan
67 - Nicholas
69 - Ohio
71 - Pendleton
73 - Pleasants
75 - Pocahontas
77 - Preston
79 - Putnam
81 - Raleigh
83 - Randolph
85 - Ritchie
87 - Roane
89 - Summers
91 - Taylor
93 - Tucker
95 - Tyler
97 - Upshur
99 - Wayne
101 - Webster
103 - Wetzel
105 - Wirt
107 - Wood
109 - Wyoming

Wisconsin

1 - Adams
3 - Ashland
5 - Barron
7 - Bayfield
9 - Brown
11 - Buffalo
13 - Burnett
15 - Calumet
17 - Chippewa
19 - Clark
21 - Columbia
23 - Crawford
25 - Dane
27 - Dodge
29 - Door
31 - Douglas
33 - Dunn
35 - Eau Claire
37 - Florence
39 - Fond Du Lac
41 - Forest
43 - Grant
45 - Green
47 - Green Lake
49 - Iowa
51 - Iron
53 - Jackson
55 - Jefferson
57 - Juneau
59 - Kenosha

61 - Kewaunee
63 - La Crosse
65 - Lafayette
67 - Langlade
69 - Lincoln
71 - Manitowoc
73 - Marathon
75 - Marinette
77 - Marquette
78 - Menominee
79 - Milwaukee
81 - Monroe
83 - Oconto
85 - Oneida
87 - Outagamie
89 - Ozaukee
91 - Pepin
93 - Pierce
95 - Polk
97 - Portage
99 - Price
101 - Racine
103 - Richland
105 - Rock
107 - Rusk
109 - St. Croix
111 - Sauk
113 - Sawyer
115 - Shawano
117 - Sheboygan
119 - Taylor
121 - Trempealeau
123 - Vernon
125 - Vilas
127 - Walworth
129 - Washburn
131 - Washington
133 - Waukesha
135 - Waupaca
137 - Waushara
139 - Winnebago
141 - Wood

Wyoming

1 - Albany
3 - Big Horn
5 - Campbell
7 - Carbon
9 - Converse
11 - Crook
13 - Fremont
15 - Goshen
17 - Hot Springs
19 - Johnson
21 - Laramie
23 - Lincoln
25 - Natrona
27 - Niobrara
29 - Park
31 - Platte
33 - Sheridan
35 - Sublette
37 - Sweetwater
39 - Teton
41 - Uinta
43 - Washakie
45 - Weston

Metropolitan area FIPS codes

A

0040 Abilene, TX, MSA
0080 Akron, OH, PMSA
0120 Albany, GA, MSA
0160 Albany–Schenectady–Troy, NY, MSA
0200 Albuquerque, NM, MSA
0220 Alexandria, LA, MSA
0240 Allentown–Bethlehem, PA–NJ, MSA Easton, PA)
0280 Altoona, PA, MSA
0320 Amarillo, TX, MSA
0360 Anaheim–Santa Ana, CA, PMSA
0380 Anchorage, AK, MSA
0400 Anderson, IN, MSA
0405 Anderson, SC, MSA
0440 Ann Arbor, MI, PMSA
0450 Anniston, AL, MSA
0460 Appleton–Oshkosh–Neenah, WI, MSA
0480 Asheville, NC, MSA
0500 Athens, GA, MSA
0620 Atlanta, GA, MSA
0560 Atlantic City, NJ NSA
0600 Augusta, GA–SC, MSA
0620 Aurora–Elgin, IL, PMSA
0640 Austin, TX, MSA

B

0680 Bakersfield, CA, MSA
0720 Baltimore, MD, MSA
0730 Bangor, ME, MSA
0760 Baton Rouge, LA, MSA
0780 Battle Creek, MI, MSA
0840 Beaumont–Port Arthur, TX, MSA
0845 Beaver County, PA, PMSA
0860 Bellingham, WA, MSA
0870 Benton Harbor, MI, MSA
0875 Bergen–Passaic, NJ, PMSA
0880 Billings, MT, MSA
0920 Biloxi–Gulfport, MS, MSA
0960 Binghamton, NY, MSA
1000 Birmingham, AL, MSA
1010 Bismarck, ND, MSA
1020 Bloomington, IN, MSA
1040 Bloomington–Normal, IL, MSA
1080 Boise City, ID, MSA
1120 Boston, MA, PMSA
1122 Boston–Lawrence–Salem, MA–NH, CMSA
1123 Boston–Lawrence–Salem–Lowell–Brockton, MA, NECMA
1200 Brockton, MA, PMSA
1125 Boulder–Longmont, CO, PMSA
1140 Bradenton, FL, MSA
1145 Brazoria, TX, PMSA
1150 Bremerton, WA, MSA
1160 Bridgeport–Milford, CT, PMSA
1163 Bridgeport–Stamford–Norwalk–Danbury, CT, NECMA
1170 Bristol, CT, PMSA
1200 Brockton, MA, PMSA
1240 Brownsville–Harlingen, TX, MSA
1260 Bryan–College Station, TX, MSA
1280 Buffalo, NY, PMSA
1282 Buffalo–Niagara Falls, NY, CMSA
1300 Burlington, NC, MSA
1303 Burlington, VT, NECMA
1305 Burlington, VT, MSA

C

1320 Canton, OH, MSA
1350 Casper, WY, MSA
1360 Cedar Rapids, IA, MSA
1400 Champaign–Urbana–Rantoul, IL, MSA
1440 Charleston, SC, MSA
1480 Charleston, WV, MSA
1520 Charlotte–Gastonia–Rock Hill, NC–SC, MSA
1540 Charlottesville, VA, MSA
1560 Chattanooga, TN–GA, MSA
1580 Cheyenne, WY, MSA
1600 Chicago, IL, PMSA
1602 Chicago–Gary–Lake County (IL), IL–IN–WI, CMSA
1620 Chico, CA, MSA
1640 Cincinnati, OH–KY–IN, PMSA
1642 Cincinnati–Hamilton, OH–KY–IN, CMSA
1660 Clarksville–Hopkinsville, TN–KY, MSA
1680 Cleveland, OH, PMSA
1692 Cleveland–Akron–Lorain, OH, CMSA
1720 Colorado Springs, CO, MSA
1740 Columbia, MO, MSA
1760 Columbia, SC, MSA
1800 Columbus, GA–AL, MSA
1840 Columbus, OH, MSA
1880 Corpus Christi, TX, MSA
1900 Cumberland, MD–WV, MSA

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1920 Dallas, TX, PMSA
1922 Dallas–Fort Worth, TX, CMSA
1930 Danbury, CT, PMSA
1950 Danville, VA, MSA
1960 Davenport–Rock Island–Moline, IA–IL, MSA
2000 Dayton–Springfield, OH, MSA
2020 Daytona Beach, FL, MSA
2040 Decatur, IL, MSA
2080 Denver, CO, PMSA
2082 Denver–Boulder, CO, CMSA
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2160 Detroit, MI, PMSA
2162 Detroit–Ann Arbor, MI, CMSA
2180 Dothan, AL, MSA
2200 Dubuque, IA, MSA
2240 Duluth, MN–WI, MSA

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2290 Eau Claire, WI, MSA
2320 El Paso, TX, MSA
2330 Elkhart–Goshen, IN, MSA
2335 Elmira, NY, MSA
2340 Enid, OK, MSA
2360 Erie, PA, MSA
2400 Eugene–Springfield, OR, MSA
2440 Evansville, IN–KY, MSA

F

2480 Fall River, MA–RI, PMSA
2520 Fargo–Moorhead, ND–MN, MSA
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2600 Fitchburg–Leominster, MA, MSA
2640 Flint, MI, MSA
2650 Florence, AL, MSA
2655 Florence, SC, MSA
2670 Fort Collins–Loveland, CO, MSA
2680 Fort Lauderdale–Hollywood–Pompano, FL, PMSA
2700 Fort Myers–Cape Coral, FL, MSA
2710 Fort Pierce, FL, MSA
2720 Fort Smith, AR–OK, MSA
2750 Fort Walton Beach, FL, MSA
2760 Fort Wayne, IN, MSA
2800 Fort Worth–Arlington, TX, PMSA
2840 Fresno, CA, MSA

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2880 Gadsden, AL, MSA
2900 Gainesville, FL, MSA
2920 Galveston–Texas City, TX, PMSA
2960 Gary–Hammond, IN, PMSA
2975 Glens Falls, NY, MSA
2985 Grand Forks, ND, MSA
3000 Grand Rapids, MI, MSA
3040 Great Falls, MT, MSA
3060 Greeley, CO, MSA
3080 Green Bay, WI, MSA
3120 Greensboro–Winston-Salem–HighPoint, NC, MSA
3160 Greenville–Spartanburg, SC, MSA

H

3180 Hagerstown, MD, MSA
3200 Hamilton–Middletown, OH, PMSA
3240 Harrisburg–Lebanon–Carlisle, PA, MSA
3280 Hartford, CT, PMSA
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3290 Hickory, NC, MSA
3320 Honolulu, HI, MSA
3350 Houma–Thibodaux, LA, MSA
3360 Houston, TX, PMSA
3362 Houston–Galveston–Brazoria, TX, CMSA
3400 Huntington–Ashland, WV–KY–OH, MSA
3440 Huntsville, AL, MSA

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3480 Indianapolis, IN, MSA
3500 Iowa City, IA, MSA

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3600 Jacksonville, FL, MSA
3605 Jacksonville, NC, MSA
3620 Janesville–Beloit, WI, MSA
3640 Jersey City, NJ, PMSA
3660 Johnson City–Kingsport–Bristol (TN), TN–VA, MSA
3680 Johnstown, PA, MSA
3690 Joliet, IL,, PMSA
3710 Joplin, MD, MSA

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3980 Lakeland–Winter Haven, FL, MSA
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4040 Lansing–East Lansing, MI, MSA
4080 Laradeo, TX, MSA
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4120 Las Vegas, NV, MSA
4150 Lawrence, KS, MSA
4160 Lawrence–Haverhill, MA–NH, PMSA
4200 Lawton, OK, MSA
4240 Lewiston–Auburn, ME, MSA
4243 Lewiston–Auburn, ME, NECMA
4280 Lexington–Fayette, KY, MSA
4320 Lima, OH, MSA
4360 Lincoln, NE, MSA
4400 Little Rock–North Little Rock AR, MSA
4420 Longview–Marshall, TX, MSA
4440 Lorain–Elyria, OH, PMSA
4472 Los Angeles–Anaheim–Riverside, CA, CMSA
4480 Los Angeles–Long Beach, CA, PMSA
4520 Louisville, KY–IN, MSA
4560 Lowell, MA–NH, PMSA
4600 Lubbock, TX, MSA
4640 Lynchburg, VA, MSA

M

4680 Macon–Warner Robins, GA, MSA
4720 Madison, WI, MSA
4760 Manchester, NH, MSA
4363 Manchester–Nasua, NH, NECMA
4800 Mansfield, OH, MSA
4880 McAllen–Edinburg–Mission, TX, MSA
4890 Medford, OR, MSA
4900 Melbourne–Titusville–Palm Bay, FL, MSA
4920 Memphis, TN–AR–MS, MSA
4940 Merced, CA, MSA
4992 Miami–Fort Lauderdale, FL, CMSA
5000 Miami-Hialeah, FL, PMSA
5015 Middlesex–Somerset–Hunterdon, NJ, PMSA
5020 Middletown, CT, PMSA
5040 Midland, TX, MSA
5080 Milwaukee, WI, PMSA
5082 Milwaukee–Racine, WI, CMSA
5120 Minneapolis–St. Paul, MN–WI, MSA
5160 Mobile, AL, MSA
5170 Modesto, CA, MSA
5190 Monmouth–Ocean, NJ, PMSA
5200 Monroe, LA, MSA
5240 Montgomery, AL, MSA
5280 Muncie, IN, MSA
5320 Muskegon, MI, MSA

N

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5350 Nashua, NH, PMSA
5360 Nashville, TN, MSA
5380 Nassau–Suffolk, NY, PMSA
5400 New Bedford, MA, MSA
5403 New Bedford–Fall River–Atteboro, MA, NECMA
5440 New Britain, CT, PMSA
5480 New Haven–Meriden, CT, MSA
5483 New Haven–Waterbury–Meriden, CT, NECMA
5520 New London–Norwich, CT–RI, MSA
5623 New London–Norwich, CT, NECMA
5560 New Orleans, LA, MSA
5600 New York, NY, PMSA
5602 New York–Northern New Jersey–Long Island, NY-NJ-CT, CMSA
5640 Newark, NJ, PMSA
5700 Niagara Falls, NY, PMSA
5720 Norfolk–Virginia Beach–Newport News, VA, MSA
5760 Norwalk, CT, PMSA

O

5775 Oakland, CA, PMSA
5790 Ocala, FL, MSA
5800 Odessa, TX, MSA
5880 Oklahoma City, OK, MSA
5910 Olympia, WA, MSA
5920 Omaha, NE-IA, MSA
5950 Orange County, NY, PMSA
5960 Orlando, FL, MSA
5990 Owensboro, KY, MSA
6000 Oxnard–Ventura, CA, PMSA

P

6015 Panama City, FL, MSA
6020 Parkersburg–Marietta, WV–OH, MSA
6025 Pascagoula, MS, MSA
6060 Pawtucket–Woonsocket–Attleboro, RI–MI, PMSA
6080 Pensacola, FL, MSA
6120 Peoria, IL, MSA
6160 Philadelphia, PA–NJ, PMSA
6162 Philadelphia–Wilmington–Trenton, PA–NJ–DE–MD, CMSA
6200 Phoenix, AZ, MSA
6240 Pine Bluff, AR, MSA
6280 Pittsburgh, PA, PMSA
6282 Pittsburgh–Beaver Valley, PA, CMSA
6320 Pittsfield, MA, MSA
6323 Pittsfield, MA, NECMA
6400 Portland, ME, MSA
6403 Portland, ME, NECMA
6440 Portland, OR, PMSA
6442 Portland–Vancouver, OR–WA, CMSA
6450 Portsmouth–Dover–Rochester, NH–ME, MSA
6453 Portsmouth–Dover–Rochester, NH, NECMA
6460 Poughkeepsie, NY, MSA
6480 Providence, RI RMSA
6482 Providence–Pawtucket–Fall River, RI–MA, CMSA
6483 Providence–Pawtucket–Woonsocket, RI, NECMA
6520 Provo–Orem, UT, MSA
6560 Pueblo, CO, MSA

R

6600 Racine, WI, PMSA
6640 Raleigh–Durham, NC, MSA
6660 Rapid City, SD, MSA
6680 Reading, PA, MSA
6690 Redding, CA, MSA
6720 Reno, NV, MSA
6740 Richland–Kennewick–Pasco, WA, MSA
6760 Richmond–Petersburg, VA, MSA
6780 Riverside–San Bernardino, CA, PMSA
6800 Roanoke, VA, MSA
6820 Rochester, MN, MSA
6840 Rochester, NY, MSA
6880 Rockford, IL, MSA

S

6920 Sacramento, CA, MSA
6960 Saginaw–Bay City–Midland, MI, MSA
6980 St. Cloud, MN, MSA
7000 St. Joseph, MO, MSA
7040 St. Louis, MO–IL, MSA
7080 Salem, OR, MSA
7090 Salem–Gloucester, MA, PMSA
7120 Salinas–Seaside–Monterey, CA, MSA
7160 Salt Lake City–Ogden, UT, MSA
7200 San Angelo, TX, MSA
7240 San Antonio, TX, MSA
7320 San Diego, CA, MSA
7360 San Francisco, CA, PMSA
7362 San Francisco–Oakland–San Jose, CA, CMSA
7400 San Jose, CA, PMSA
7480 Santa Barbara–Santa Maria–Lompoc, CA, MSA
7485 Santa Cruz, CA, PMSA
7490 Santa Fe, NM, MSA
7500 Santa Rosa–Petaluma, CA, PMSA
7510 Sarasota, FL, MSA
7520 Savannah, GA, MSA
7560 Scranton–Wilkes-Barre, PA, MSA
7600 Seattle, WA, PMSA
7602 Seattle–Tacoma, WA, CMSA
7610 Sharon, PA, MSA
7620 Sheboygan, WI, MSA
7640 Sherman–Denison, TX, MSA
7680 Shreveport, LA, MSA
7720 Sioux City, IA–NE, MSA
7760 Sioux Falls, SD, MSA
7800 South Bend–Mishawaka, IN, MSA
7840 Spokane, WA, MSA
7880 Springfield, IL, MSA
7920 Springfield, MO, MSA
8000 Springfield, MA, MSA
8003 Springfield, MA, NECMA
8040 Stanford, CT, PMSA
8050 State College, PA, MSA
8080 Steubenville–Weirton, OH–WV, MSA
8120 Stockton, CA, MSA
8160 Syracuse, NY, MSA

T

8200 Tacoma, WA, PMSA
8240 Tallahassee, FL, MSA
8280 Tampa–St. Petersburg–Clearwater, FL., MSA
8320 Terre Haute, IN, MSA
8360 Texarkana, TX–Texarkana, AR, MSA
8400 Toledo, OH, MSA
8440 Topeka, KS, MSA
8480 Trenton, NJ, PMSA
8520 Tucson, AZ, MSA
8560 Tulsa, OK, MSA
8600 Tuscaloosa, AL, MSA
8640 Tyler, TX, MSA

U

8680 Utica–Rome, NY, MSA

V

8720 Vallejo–Fairfield–Napa, CA, PMSA
8725 Vancouver, WA, PMSA
8750 Victoria, TX, MSA
8760 Vineland–Millville–Bridgeton, NJ, PMSA
8780 Visalia–Tulare–Porterville, CA, MSA

W

8800	Waco, TX, MSA
8840	Washington, DC–MD–VA, MSA
8880	Waterbury, CT, MSA
8920	Waterloo–Cedar Falls, IA, MSA
8940	Wausau, WI, MSA
8960	West Palm Beach–Boca Raton–Delray Beach, FL, MSA
9000	Wheeling, WV–OH, MSA
9040	Wichita, KS, MSA
9080	Wichita Falls, TX, MSA
9140	Williamsport, PA, MSA
9160	Wilmington, DE–NJ–MD, PMSA
9200	Wilmington, NC, MSA
9240	Worcester, MA, MSA
9243	Worcester–Fitchburg–Leominster, MA, NECMA

Y

9260	Yakima, WA, MSA
9280	York, PA, MSA
9320	Youngstown–Warren, OH, MSA
9340	Yuba City, CA, MSA

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All materials listed below are available from ESRI Book Sales, 380 New York Street, Redlands, California 92373. Telephone: (714) 793-2853.

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Star, J. L., and J. E. Estes. 1990. *Geographic Information Systems: An Introduction.* Englewood Cliffs, N.J.: Prentice Hall.

Tomlin, D. 1990. *Geographic Information Systems and Cartographic Modelling.* Englewood Cliffs, N.J.: Prentice Hall.

Appendix E

Other data sources

The Landsat satellite imagery indexed in the ArcUSA 1:2M database can be obtained from the Earth Observation Satellite Company (EOSAT), Lanham, Maryland. (Digital data in ARC/INFO-compatible format for specified areas can be obtained by calling 800-344-9933.)

The U.S. Geological Survey topographic maps indexed in the ArcUSA 1:2M database can be purchased by writing to: USGS Map Sales, Box 25286, Denver, CO 80225 (telephone 303-236-7477).

The *ArcData Catalog*, distributed by ESRI, is a handy reference to high-quality database products distributed in ARC/INFO-compatible format. It includes database products marketed by ESRI and those offered by premier data publishers under the auspices of the ArcData program. To obtain a copy of this valuable data guide, contact the ESRI Regional Office nearest you, or call the ESRI Marketing Department in Redlands, California, at 714-793-2853.

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